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**THE VILLAGE OF TINLEY PARK**

**Cook County, Illinois**

**Will County, Illinois**

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**RESOLUTION**

**NO. 2020-R-057**

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**A RESOLUTION APPROVING THE FIRST EXTENSION CONTRACT BETWEEN THE  
VILLAGE OF TINLEY PARK AND CARDNO, INC. FOR 2020 NATURALIZED STORMWATER  
AREAS MAINTENANCE**

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**JACOB C. VANDENBERG, PRESIDENT  
KRISTIN A. THIRION, VILLAGE CLERK**

**CYNTHIA A. BERG  
WILLIAM P. BRADY  
WILLIAM A. BRENNAN  
DIANE M. GALANTE  
MICHAEL W. GLOTZ  
MICHAEL G. MUELLER  
Board of Trustees**

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Published in pamphlet form by authority of the President and Board of Trustees of the Village of Tinley Park

**RESOLUTION NO. 2020-R-057**

**A RESOLUTION APPROVING THE FIRST EXTENSION CONTRACT BETWEEN THE VILLAGE OF TINLEY PARK AND CARDNO, INC. FOR 2020 NATURALIZED STORMWATER AREAS MAINTENANCE**

**WHEREAS,** the Village of Tinley Park, Cook and Will Counties, Illinois, is a Home Rule Unit pursuant to the Illinois Constitution of 1970; and

**WHEREAS,** the Corporate Authorities of the Village of Tinley Park, Cook and Will Counties, Illinois, have considered entering into an Agreement with Cardno, Inc. of Monee, Illinois, a true and correct copy of such First Extension Contract being attached hereto and made a part hereof as **EXHIBIT 1**; and

**WHEREAS,** the Corporate Authorities of the Village of Tinley Park, Cook and Will Counties, Illinois, have determined that it is in the best interests of said Village of Tinley Park that said Agreement be entered into by the Village of Tinley Park;

**NOW, THEREFORE, Be It Resolved** by the President and Board of Trustees of the Village of Tinley Park, Cook and Will Counties, Illinois, as follows:

**Section 1:** The Preambles hereto are hereby made a part of, and operative provisions of, this Resolution as fully as if completely repeated at length herein.

**Section 2:** That this President and Board of Trustees of the Village of Tinley Park hereby find that it is in the best interests of the Village of Tinley Park and its residents that the aforesaid "Agreement" be entered into and executed by said Village of Tinley Park, with said Agreement to be substantially in the form attached hereto and made a part hereof as **EXHIBIT 1**.

**Section 3:** That the President and Clerk of the Village of Tinley Park, Cook and Will Counties, Illinois are hereby authorized to execute for and on behalf of said Village of Tinley Park the aforesaid Agreement.

**Section 4:** That this Resolution shall take effect from and after its adoption and approval.

**ADOPTED** this 19<sup>th</sup> day of May, 2020, by the Corporate Authorities of the Village of Tinley Park on a roll call vote as follows:

**AYES:** Berg, Brady, Brennan. Galante, Glotz, Mueller

**NAYS:** None

**ABSENT:** None

**APPROVED** this 19<sup>th</sup> day of May, 2020, by the President of the Village of Tinley Park.

ATTEST

  
Village President

  
Village Clerk

# **EXHIBIT 1**

## **CARDNO, INC. AGREEMENT**

STATE OF ILLINOIS        )  
COUNTY OF COOK        )       SS  
COUNTY OF WILL        )

CERTIFICATE

I, KRISTIN A. THIRION, Village Clerk of the Village of Tinley Park, Counties of Cook and Will and State of Illinois, DO HEREBY CERTIFY that the foregoing is a true and correct copy of Resolution No. 2020-R-057, "A RESOLUTION APPROVING THE FIRST EXTENSION CONTRACT BETWEEN THE VILLAGE OF TINLEY PARK AND CARDNO, INC. FOR 2020 NATURALIZED STORMWATER AREAS MAINTENANCE," which was adopted by the President and Board of Trustees of the Village of Tinley Park on May 19, 2020.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the Village of Tinley Park this 19<sup>th</sup> day of May 2020.

  
\_\_\_\_\_  
VILLAGE CLERK



## VILLAGE OF TINLEY PARK

### SERVICE CONTRACT

This contract is by and between the **Village of Tinley Park**, an Illinois home-rule municipal corporation (the "Village"), and **Cardno, Inc.** (the "Contractor"), for the project or work described in Exhibit A, attached hereto and made a part hereof.

1. In consideration of the compensation stated in paragraph 2, the Contractor shall provide all the services described in the Scope of Services attached hereto as Exhibit "A" and incorporated herein by reference. The express terms of this Contract shall take precedence and control over any term or provision of the Scope of Services (Exhibit A) that in any way conflicts with, differs from, or attempts to alter the terms of this Contract.
2. Except in the event of a duly authorized change order approved by the Village as provided in this Contract, and in consideration of the Contractor's final completion of all work in conformity with this Contract, the Village shall pay the Contractor an amount not to exceed **one hundred eighty nine thousand five hundred dollars and 00/100 Dollars** (189,500.00). Within thirty (30) calendar days of completion of the work, the Contractor shall submit his application for payment to the Village, and the Village shall pay Contractor for the work performed no later than **thirty (30)** calendar days from the date of the Village's receipt and the Village's approval of the work and the application for payment. No payment shall be made by the Village until the Contractor has submitted to the Village (i) a Contractor's Affidavit listing all subcontractors and material suppliers utilized on the project and (ii) final waivers of lien from the Contractor, all subcontractors and all material suppliers.
3. No changes shall be made, nor will invoices for changes, alterations, modifications, deviations, or extra work or services be recognized or paid except upon the prior written order from authorized personnel of the Village. The Contractor shall not execute change orders on behalf of the Village or otherwise alter the financial scope of the Project.
4. Written change orders may be approved by the Village Manager or his designee provided that the change order does not increase the amount set forth in paragraph 2 of this Contract to more than \$10,000.00. Changes in excess of this amount must be approved by the Village Board prior to commencement of the services or work. **If a requested change causes an increase or decrease in the cost of or time required for the performance of the contract, Contractor will agree to an equitable adjustment in the contract price or performance schedule, or both. Neither party is obligated to comply with requested changes unless and until both parties execute a written change order.**
5. **Time is of the essence on this Contract.** The Contractor shall complete all work under this Contract by the dates set forth below:
6. No "Notice to Proceed" may be given nor any work commenced until this Contract is fully executed and all exhibits and other attachments are completely filled out and attached hereto.
7. It is understood and agreed by the parties that the Contractor is an independent contractor retained for the above-mentioned purpose. The Village shall not control the manner nor the means of the Contractor's performance, but shall be entitled to a work product as described herein. The term "subcontractor" shall mean and include only those hired by and having a direct contract with Contractor for performance of work on the Project. The

Village shall have no responsibility to any subcontractor employed by a Contractor for performance of work on the Project, and all subcontractors and material suppliers shall look exclusively to the Contractor for any payments due. The Village will **not** be responsible for reporting or paying employment taxes or other similar levies that may be required by the United States Internal Revenue Service or other State or Federal agencies. Every subcontractor shall be bound by the terms and provisions of this Contract as far as applicable to their work. The Contractor shall be fully responsible to the Village for the acts and omissions of its subcontractors, and shall ensure that any subcontractors perform in accordance with the requirements of this Contract. Nothing contained herein shall create any contractual or employment relations between any subcontractor and the Village. The Contractor is solely responsible for the safety procedures, programs and methods of its employees and agents and shall hold the Village harmless for any and all damages resulting from violations thereof. The Contractor shall comply with all applicable federal, State and local safety laws and regulations.

- 8. It is further agreed that the Contractor shall indemnify, hold harmless, and defend the Village, its officers, agents, and employees from and against any and all claims, losses, damages, causes of action, suits, and liability of every kind, including all expenses of litigation, court costs, and attorneys' fees, for injury to or death of any person or for damage to any property arising out of or in connection with the Contractor's negligence under this Contract.**
- 9. The Contractor assumes full responsibility for the work to be performed hereunder and hereby releases, relinquishes, and discharges the Village, its officers, agents, and employees from all claims, demands, and causes of action of every kind and character, including the cost of defense thereof, for any injury to or death of any person and any loss of or damage to any property that is caused by, alleged to be caused by, arising out of, or in connection with the Contractor's negligence in its work to be performed hereunder. The Contractor shall maintain insurance coverage in an amount and from a carrier suitable to the Village, and the Village shall be named as an additional insured where required. Certificates of Insurance are attached hereto as Exhibit B.**
10. The Village is exempt from payment of state and local sales and use of taxes on labor and materials incorporated into the project. If necessary, it is the Contractor's responsibility to obtain a sales tax permit, resale certificate, and exemption certificate that shall enable the Contractor to buy any materials to be incorporated into the project and then resale the aforementioned materials to the Village without paying the tax on the materials at the time of purchase. In no event will the Village be liable for or pay any sales or use taxes incurred by the Contractor in performing the services under this contract.
11. The Contractor shall comply with all applicable federal, state, and local statutes, regulations, ordinances, and other laws, including but not limited to the Immigration Reform and Control Act (IRCA). The Contractor may not knowingly obtain the labor or services of an unauthorized alien. The Contractor, not the Village, must verify eligibility for employment as required by IRCA.
12. At any time, the Village may terminate this Contract for convenience, upon written notice to the Contractor. The Contractor shall cease work immediately upon receipt of such notice. The Contractor shall be compensated for services performed and accepted by the Village up to the date of termination.

13. No waiver or deferral by either party of any term or condition of this Contract shall be deemed or construed to be a waiver or deferral of any other term or condition or subsequent wavier or deferral of the same term or condition.
14. This Contract may only be amended by written instrument approved and executed by the parties.
15. This Contract and the rights and obligations contained herein may not be assigned by the Contractor without the prior written approval of Village.
16. The parties hereby state that they have read and understand the terms of this Contract and hereby agree to the conditions contained herein.
17. This Contract has been made under and shall be governed by the laws of the State of Illinois. The parties agree that performance and all matters related thereto shall be in Cook County, Illinois.
18. Contractor, its employees, associates or subcontractors shall perform all the work hereunder. Contractor agrees that all of its associates, employees, or subcontractors who work on this Project shall be fully qualified and competent to do the work described hereunder. Contractor shall undertake the work and complete it in a timely manner.
19. If any provision of this Contract shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court of competent jurisdiction finds that any provision of this Contract is invalid or unenforceable, but that by limiting such provision it may become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.
20. This Contract represents the entire and integrated agreement between the Village and Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral.
21. This Contract will be effective when signed by the last party whose signing makes the Contract fully executed.
22. The Contractor agrees to comply with the Illinois Prevailing Wage Act, if the work to be performed under this Contract is covered by said Act.
23. The Contractor agrees to comply with the Illinois Substance Abuse Prevention on Public Works Projects Act.

## CERTIFICATIONS BY CONTRACTOR

### Affidavit of Compliance

Contractor and all subcontractors shall complete this Affidavit of Compliance ("Affidavit") and submit supporting documentation as required pursuant to *Responsible Bidder Requirements on Public Work Projects*. Contractor must submit this Affidavit and all related evidence with its bid. Contractor shall be responsible for providing this Affidavit to all subcontractors who will perform work on the project. All subcontractors' Affidavits and supporting documentation must be submitted no later than the date and time of the contract award. Failure to comply with all submission requirements may result in a determination that the Contractor is not a responsible bidder.

*For the remainder of this Affidavit, "Contractor" refers to the general contractor and all subcontractors.* Each item must be answered. If the question is not applicable, answer "NA." If the answer is none, answer "none."

The certifications set forth in this Affidavit and all documents attached hereto shall become a part of any contract awarded to the Contractor. Furthermore, Contractor shall comply with these certifications during the term and/or performance of the contract.

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The undersigned Sean Clauson, as Assistant Vice President and on behalf  
(Name) (Title)  
of Cardno, Inc. having been duly sworn under oath certifies that:  
(Contractor)

### Business Organization

The form of business organization of the Contractor is (check one):

☐ Sole Proprietor or Partnership ☐ LLC  
☒ Corporation ☐ Independent Contractor (Individual)

If contractor/subcontractor is a corporation, indicate the state and the date of incorporation:

Delaware, 2011

Authorized to do business in the State of Illinois: Yes ☒ No ☐

Describe supporting documentation attached: List of States, Certificate/ID numbers, and Qualifying Dates

Federal Employer I.D. #: 45-2663666

Social Security # (if an individual or sole proprietor): \_\_\_\_\_

Registered with Illinois Department of Revenue: Yes ☒ No ☐

Describe supporting documentation attached (if "No," explain): \_\_\_\_\_

Registered with Illinois Department of Employment Security: Yes ☒ No ☐

Describe supporting documentation attached (if "No," explain): \_\_\_\_\_

**Tax liens or tax delinquencies**

Disclosure of any federal, state or local tax liens or tax delinquencies against the contractor of any officers of the contractor in the last five (5) years Yes ☐ No ☒

"No" means "not applicable." If "yes," describe lien/delinquencies and resolution:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**EOE Compliance**

Contractor is in compliance with provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Executive Order No. 11375 (known as the Equal Opportunity Employer provisions). Yes ☒ No ☐

**Employee Classification**

Contractor's employees who will perform work on the project are properly classified as an employee or independent contractor under all applicable state and federal laws and local ordinances (Form B). N/A ☐ Yes ☒ No ☐

**Professional or Trade Licenses**

Contractor will possess all applicable professional and trade licenses required for performing the Contract work: \*Included in attached RFP Yes ☒ No ☐

License	Number	Date Issued	Current Expiration	Holder of License

If any of the above license(s) have been revoked or suspended, state the date and reason for suspension/revocation:

**Documentation Attached** (Contractor must initial next to each item):

SC Form A: Name and address of subcontractors from whom Contractor has accepted a bid or intends to hire to perform work on any part of the project.

NOTE: All subcontractors shall complete and submit an Affidavit of Compliance no later than the date the subcontractor commences work on the project.

SC Form B: List of individuals who will perform work on the project on behalf of the Contractor, verifying that each individual is properly classified as an employee or independent contractor. Contractor also verifies that all Contractor's employees are covered under a current workers' compensation policy, properly classified under the workers' compensation policy, and covered by a health and welfare and retirement plan.

N/A Form C Additional Information (if required)

SC Certificate of Good Standing  
(or other evidence of compliance with laws pre-requisite to doing business in the state)

SC Illinois Department of Revenue registration

SC Illinois Department of Employment Security registration

SC Standards of Apprenticeship/Apprentice Agreements

SC Substance Abuse Prevention program (or applicable provision from CBA in effect)

SC Written Safety Policy Statement signed by company representative

SC OSHA cards evidencing 10-hour or greater safety program completed, if requested

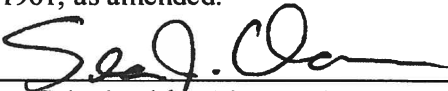
SC Workers' Compensation Coverage

SC Professional or Trade Licenses

### Eligibility to Contract

The undersigned hereby certifies that the Contractor is not barred from bidding on or entering into this contract as a result of a violation of either the bid-rigging or bid-rotating provisions of Article 33E of the Criminal Code of 1961, as amended.

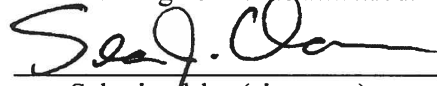
Cardno, Inc.  
Name of Contractor (please print)  
Assistant Vice President  
Title

  
Submitted by (signature)  
Sean Clauson

### Certificate of Compliance with Illinois Human Rights Act

The undersigned hereby certifies that the Contractor is in compliance with Title 7 of the 1964 Civil Rights Act as amended and the Illinois Human Rights Act as amended.

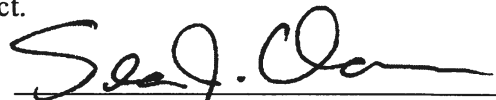
Cardno, Inc.  
Name of Contractor (please print)  
Assistant Vice President  
Title

  
Submitted by (signature)  
Sean Clauson

### Certificate of Compliance with Illinois Drug-Free Workplace Act

The undersigned, **having 25 or more employees**, does hereby certify pursuant to section 3 of the Illinois Drug Free Workplace Act (30 ILCS 580/3) that it shall provide a drug-free workplace for all employees engaged in the performance of the work under the contract by complying with the requirements of the Illinois Drug-Free Workplace Act and, further certifies, that it is not ineligible for award of this contract by reason of debarment for a violation of the Illinois Drug-Free Workplace Act.

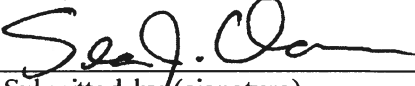
Cardno, Inc.  
Name of Contractor (please print)  
Assistant Vice President  
Title

  
Submitted by (signature)  
Sean Clauson

### Certificate Regarding Sexual Harassment Policy

The undersigned does hereby certify pursuant to section 2-105 of the Illinois Human Rights Act (775 ILCS 5/2-105) that it has a written sexual harassment policy that includes, at a minimum, the following information: (i) the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties; (v) the legal recourse, investigative and complaint process available through the Department of Human Rights and Human Rights Commission; (vi) direction on how to contact the Department of Human Rights and Human Rights Commission; and (vii) protection against retaliation.

Cardno, Inc.  
Name of Contractor (please print)  
  
Assistant Vice President  
Title

  
Submitted by (signature)  
Sean Clauson

### Certificate of Compliance with Substance Abuse Prevention on Public Works Projects Act

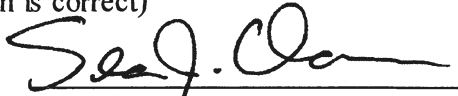
The undersigned hereby certifies that:

A. There is in place a written program which meets or exceeds the program requirements of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635), and has provided a written copy thereof to the Village of Tinley Park.

~~B. There is in place a collective bargaining agreement which deals with the subject matter of the Substance Abuse Prevention on Public Works Projects Act (P.A. 95-0635)~~

(Cross out either A or B depending upon which certification is correct)

Cardno, Inc.  
Name of Contractor (please print)  
  
Assistant Vice President  
Title

  
Submitted by (signature)  
Sean Clauson

### Certificate of Compliance with Prevailing Wage Requirements

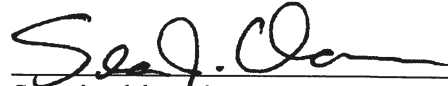
The undersigned hereby certifies that:

This contract calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/01 et seq. ("the Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current "prevailing rate of wages" (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at <http://www.state.il.us/agency/idol/rates/rates.HTM>. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department's web site for revisions to prevailing wage rates. For information regarding



current prevailing wage rates, please refer to the Illinois Department of Labor's website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

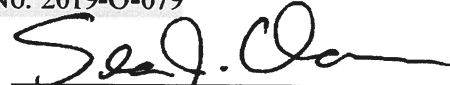
Cardno, Inc.  
Name of Contractor (please print)  
Assistant Vice President  
Title

  
Submitted by (signature)  
Sean Clauson

**Certificate of Compliance with the Village of Tinley Park Responsible Bidder Ordinance**

The undersigned or the entity making the proposal or bid has reviewed and is in compliance with the Village of Tinley Park Responsible Bidder Ordinance No. 2019-O-079

Cardno, Inc.  
Name of Contractor (please print)  
Assistant Vice President  
Title

  
Submitted by (signature)  
Sean Clauson

**[Signature Page to Follow]**

CARDNO, INC.

BY: Sean Clauson

5/13/20

Date

Printed Name: Sean Clauson

Title: Assistant Vice President

VILLAGE OF TINLEY PARK

BY: Jacob C. Vandenberg  
Jacob C. Vandenberg, Village President  
(required if Contract is \$20,000 or more)

5-19-2020

Date

ATTEST:

[Signature]  
Village Clerk  
(required if Contract is \$20,000 or more)

5-19-2020

Date

VILLAGE OF TINLEY PARK

BY: \_\_\_\_\_  
Village Manager

\_\_\_\_\_  
Date

### **SCOPE OF SERVICES**

**Attached Scope of work for Naturalized Stormwater Areas Maintenance as detailed in:**

- **Renewal Work – see attached Addendum No. 1, 2018-RFP-008, dated July 30, 2018**

**Exhibit B**

**INSURANCE REQUIREMENTS**

(See Risk Manager for Insurance Requirements)

## Form A

### Subcontractors who will Perform Work on the Project

[illegible]

\*Included in attached RFP

List all individuals who will perform work on this project with the following information:

Employee's (E) county of residence.

[illegible]

Form C

If required in the bid specifications, Contractor shall complete items I and/or II below:

[illegible]

List any determinations by a court or governmental agency for violations of federal, state or local laws, including but not limited to violations of contracting or antitrust laws, tax or licensing laws, environmental laws, the Occupational Safety and Health Act (OSHA), the National Labor Relations Act (NLRA), or federal Davis-Bacon and related Acts.

Date	Law	Determination	Penalty



**CARDNO, INC. - Authority to do Business**

<b>Jurisdiction</b>	<b>State/Charter Id</b>	<b>Qualified Date</b>
Alabama	025-667	12/20/2011
Alaska	10002307	12/9/2011
Arizona	F17273325	12/20/2011
Arkansas	811008107	12/19/2011
California	C3436729	12/9/2011
Colorado	20111680693	12/9/2011
Connecticut	1055875	12/9/2011
Delaware (Domestic)	4995179	6/10/2011
District of Columbia	C0000002907	12/14/2011
Florida	F11000004930	12/9/2011
Georgia	11092434	12/12/2011
Hawaii	44757F1	12/9/2011
Idaho	C193038	12/8/2011
Illinois	N/A	12/9/2011
Indiana	2011121200201	12/9/2011
Iowa	427605	12/9/2011
Kansas	4568770	12/8/2011
Kentucky	807341	12/9/2011
Louisiana	40691275F	12/19/2011
Maine	20120448 F	12/9/2011
Maryland	F14414130	12/9/2011
Massachusetts	1066725	12/9/2011
Michigan	60503P	12/9/2011
Minnesota	456920400035	12/9/2011
Mississippi	992844	12/9/2011
Missouri	F01188372	12/8/2011
Montana	F064466	12/9/2011
Nebraska	10155504	12/14/2011
Nevada	E0672552011-4	12/13/2011
New Hampshire	N/A	12/15/2011
New Jersey	101019201	12/9/2011
New Mexico	4546458	12/9/2011
New York	111227000113	12/27/2011
North Carolina	1233816	12/12/2011
North Dakota	30501700	12/8/2011
Ohio	2068321	12/13/2011
Oklahoma	2312338436	12/9/2011
Oregon	818670-96	12/9/2011
Pennsylvania	4072233	12/9/2011
Rhode Island	744963	12/9/2011
South Carolina	N/A	12/14/2011
South Dakota	FB035620	12/9/2011
Tennessee	673590	12/8/2011
Texas	801518100	12/8/2011
Utah	8175011-0143	12/9/2011
Vermont	F-32753-0	12/19/2011
Virginia	F1882150	12/13/2011
Washington	603164107	12/8/2011
West Virginia	99S93	12/13/2011
Wisconsin	C081018	12/8/2011
Wyoming	2011-000613337	12/20/2011



# CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)  
06/22/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Aon Risk Services Southwest, Inc. Houston TX Office 5555 San Felipe Suite 1500 Houston TX 77056 USA		<b>CONTACT NAME:</b> <b>PHONE (A/C. No. Ext):</b> (866) 283-7122 <b>FAX (A/C. No.):</b> (800) 363-0105 <b>E-MAIL ADDRESS:</b>	
<b>INSURED</b> Cardno JFNew 708 Roosevelt Walkerton IN 46574 USA		<b>INSURER(S) AFFORDING COVERAGE</b>	
		<b>INSURER A:</b> Zurich American Ins Co	<b>NAIC #</b> 16535
		<b>INSURER B:</b> American Guarantee & Liability Ins Co	26247
		<b>INSURER C:</b> Lexington Insurance Company	19437
		<b>INSURER D:</b> Ironshore Specialty Insurance Company	25445
		<b>INSURER E:</b>	
		<b>INSURER F:</b>	

Holder Identifier :

**COVERAGES**

CERTIFICATE NUMBER: 570076948312

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Per Project Agg \$2M GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			GLO018396104	06/30/2019	06/30/2020	EACH OCCURRENCE	\$1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$1,000,000
							MED EXP (Any one person)	\$10,000
							PERSONAL & ADV INJURY	\$1,000,000
							GENERAL AGGREGATE	\$10,000,000
							PRODUCTS - COMP/OP AGG	\$2,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY			BAP 0183962-04	06/30/2019	06/30/2020	COMBINED SINGLE LIMIT (Ea accident)	\$1,000,000
							BODILY INJURY (Per person)	
							BODILY INJURY (Per accident)	
							PROPERTY DAMAGE (Per accident)	
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> DED <input type="checkbox"/> RETENTION			AUC018392704	06/30/2019	06/30/2020	EACH OCCURRENCE	\$25,000,000
							AGGREGATE	\$25,000,000
A	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	WC018396004	06/30/2019	06/30/2020	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER	
							E.L. EACH ACCIDENT	\$1,000,000
							E.L. DISEASE-EA EMPLOYEE	\$1,000,000
							E.L. DISEASE-POLICY LIMIT	\$1,000,000
D	Env Site Liab			002161705 Pollution Liability	06/30/2019	06/30/2020	Occurrence	\$10,000,000
							Aggregate	\$10,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Village of Tinley park is included as Additional Insured as required by written contract, but limited to the operations of the Insured under said contract, per the applicable endorsement with respect to the General Liability policy.

Certificate No : 570076948312

**CERTIFICATE HOLDER****CANCELLATION**

Village of Tinley Park 16250 Oak Park Tinley Park IL 60477 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE  <i>Aon Risk Services Southwest, Inc.</i>
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**ADDITIONAL REMARKS**



# **ADDITIONAL REMARKS SCHEDULE**

Page \_ of \_

AGENCY Aon Risk Services Southwest, Inc.		NAMED INSURED Cardno JFNew
POLICY NUMBER See Certificate Number: 570076948312		
CARRIER See Certificate Number: 570076948312	NAIC CODE	EFFECTIVE DATE:

## **ADDITIONAL REMARKS**

**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,**  
**FORM NUMBER:** ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

### **Cardno Named Insureds**

Cardno ChemRisk, LLC.  
 Cardno EM-Assist, Inc.  
 Cardno Emerging Markets USA, Ltd.  
 Cardno ENTRIX  
 Cardno ERI  
 Cardno GS, Inc.  
 Cardno Haynes Whaley, Inc.  
 Cardno JFNew  
 Cardno MMA  
 Cardno NC, Inc.  
 Cardno TBE (AZ)  
 Cardno TBE (FL)  
 Cardno TBE; TBE Group, Inc.  
 Cardno TEC, Inc.  
 Cardno USA, Inc.  
 Cardno WRG, Inc.  
 Cardno WRG, Inc. dba WRG Designs Inc.  
 Cardno, Inc (OR)  
 Cardno, Inc. (TX)  
 Cardno, Inc. (FL)  
 Cardno (MI), Inc.  
 Cardno PPI Engineering & Construction, Services LLC., PPI Technology Services, LLC., PPI Quality & Asset Management, LLC., and its Affiliated Companies  
 Entrix Inc. dba Cardno Entrix  
 Environmental Resolutions, Inc.  
 ES NY Engineering, P.A. PC.  
 J.F. New & Associates, Inc.  
 JFNew  
 TBE Group, Inc. (Adden)  
 TBE Group, Inc. dba: Cardno TBE  
 TBE Group, Inc., Cardno TBE  
 TBE Professional Services, PLLC  
 WRG North Carolina PLLC

## **ADDENDUM NO. 1**

Naturalized Stormwater Areas Maintenance

2018-RFP-008

Tinley Park, Illinois 60477

July 30, 2018

This addendum forms part of the RFP Documents for the above named project and contains the following:

### **1) Changes**

a. The Submission Date has been changed from Friday, August 10, 2018 at 12:00 pm to **Wednesday, August 8, 2018 at 12:00 pm.**

b. The pricing forms were updated to include aquatic items.

### **2) Additions**

a. The appendix with the list of species to be controlled has been provided.

### **3) Questions and Answers:**

Question 1: Is the contract expected to begin April 15th, 2019?

Response 1: 2019 will be the first full growing season of the contract, but the Village would like to take advantage of the opportunity to begin work in 2018 once the contract is in place in order to get a jump start on stewardship work that makes the most sense to complete that late in the season.

Question 2: How many years is the contract being awarded for/is there a renewal process?

Response 2: The initial contract period shall be for one year, and it is renewable.

Question 3: Are any contractors or village staff currently performing aquatic or terrestrial management on any of the priority sites or have any contractors or village staff performed work in 2018?

Response 3: There is not currently a contract of this type in place and Village staff do not currently perform this type of work. In spring 2018 Settler's Pond West had a prescribed burn and some teasel treatment, and Settler's Pond East had a prescribed burn and supplemental seeding. The library site had stewardship visits in April, May and mid-July.

### **4) Clarifications**

a. One sentence fragment has been clarified under the Aquatic Services section of the scope. Contractors shall be responsible for the maintenance of ponds within the list of sites.

END OF ADDENDUM NO. 1



**The Village of Tinley Park, Illinois  
REQUEST FOR PROPOSALS**

***2018-RFP-008 - Naturalized Stormwater Areas Maintenance***

The Village of Tinley Park (VOTP) in its role of maintaining certain stormwater management sites, seeks the services of a capable Contractor to install, maintain, and steward naturalized plant communities at various locations throughout the Village. The work is to take place throughout the growing season, from April 15<sup>th</sup> through November 15<sup>th</sup>. The Contractor shall perform the following general services on a rotating schedule throughout the year.

- Regular landscape maintenance and stewardship services for naturalized areas
- Upland invasive species management services
- Aquatic weed and algae management services
- Site preparation and native planting installations

The Village is requesting a written proposal for a Contractor to complete this work.

**GENERAL REQUIREMENTS:** Submit six (6) packets. Submit **one (1) original plus five (5)** complete copies of the proposal.

**SUBMISSION LOCATION:** Village of Tinley Park- Clerk's Office  
16250 South Oak Park  
Avenue Tinley Park, IL  
60477

**SUBMISSION DATE:** Wednesday, August 8, 2018 at 12:00 pm

Proposals received after the time specified will not be opened.

**CONTACT / QUESTIONS:** Submit questions via email to:

Mitch Murdock at [Mitchell.murdock@site-design.com](mailto:Mitchell.murdock@site-design.com)  
Questions are required no less than seven (7) business days prior to the proposal opening date. **Absolutely no informal communication shall occur regarding this RFP, including requests for information, or speculation between responders or any of their individual members and any Village elected official or employee. All questions will be answered with a copy of the question and answer to each proposer.**

**CONTENTS:** The following sections, including this cover sheet, shall be considered integral parts of this solicitation:

- \*Notice of RFP (1 Page)
- \*I. General Terms and Conditions (2 pages)
- \*II. Background (2 pages)
- \*III. Scope of Services (19 Pages)
- \*IV. Requirements and Expectations (1 Page)
- \*V. Maps, Pricing Forms, Plant Lists and Additional Information (24 Pages)

## **I. GENERAL TERMS AND CONDITIONS**

### **1.Negotiations:**

The Village of Tinley Park reserves the right to negotiate specifications, terms and conditions, which may be necessary or appropriate to the accomplishment of the purpose of this RFP.

### **2.Confidentiality.**

RFP's and the responses thereto, are subject to the Illinois Freedom of Information Act.

### **3.Reserved Rights:**

The Village of Tinley Park Reserves the right at any time and for any reason to cancel this RFP or any portion thereof, to reject any or all RFP's, and to take any other action determined to be in its best interests. The Village reserves the right to waive any immaterial defect in any RFP. The Village may seek clarification from a responder at any time, after the submission date, and failure to respond promptly is cause for rejection.

### **4.Incurred Costs:**

The Village of Tinley Park will not be liable for any costs incurred by responders in replying to this RFP.

### **5.Award:**

Award will be based on the highest ranked responsive, responsible responder as determined by the Village of Tinley Park. The award, if any, will be based on the Village's determination as to the best qualified and most cost effective responder.

### **6.Discussion of RFP:**

The Village of Tinley Park may conduct discussions with any responder who submits a response. During the course of such discussions, the Village shall not disclose any information derived from one RFP to any other responder.

### **7.Contract Period:**

This annual contract period is anticipated to begin on April 15<sup>th</sup> and end on November 15<sup>th</sup>. In the initial year, work will begin as soon as the contractor can mobilize.

### **8.Responsibility & Default:**

The responder shall be required to assume responsibility for all items listed in this RFP. The successful responder shall be considered the sole point of contact purposes for this contract.

### **9.Payments:**

Payments shall be made in accordance with the Local Government Prompt Payment Act.

### **10. Interpretations or Correction of Request for Proposals:**

Responders shall promptly notify the Village of any ambiguity, inconsistency, or error that they may discover upon examination of the RFP's. Interpretation, correction and changes to the RFP's will be made by written addendum. Interpretation, corrections or changes made in any other manner will not be binding.

#### 11. Addenda:

Addenda are written instruments issued by the Village of Tinley Park prior to the date of receipt of responses to the RFP, which modify or interpret the RFP by addition, deletions, clarifications, or corrections. Addenda will be placed on the Village website at [www.tinleypark.org/RFP](http://www.tinleypark.org/RFP).

#### 12. Taxes:

The Village is exempt from paying certain Illinois State Taxes.

#### 13. Non-Discrimination:

Responders shall comply with the Illinois Human Rights Act, 775 ILCS 5/1 -101 et seq., as amended and any rules and regulations promulgated in accordance therewith, including, but not limited to the Equal Employment Opportunity Clause and the Illinois Drug Free Workplace Act, Title 44, Chapter 10.

#### 14. Insurance: *Please submit certificate with your response.*

The Contractors must obtain, for the Contract term and any extension of it, insurance issued by a company or companies qualified to do business in the State of Illinois and provide the Village with evidence of insurance. Insurance in the following types and amounts is necessary:

- a. **Worker's Compensation Insurance** covering all liability of the Responder arising under the Worker's Compensation Act and Worker's Occupational Disease Act at statutory limits.

b. **General Liability:**

**General Aggregate Limit \$2,000,000**

**Each Occurrence Limit \$1,000,000**

- c. **Professional Liability** to include, but not limited to, coverage for Errors and Omissions to respond to claims for loss therefrom.

**General Aggregate Limit \$2,000,000**

**Each Occurrence Limit \$1,000,000**

d. **Comprehensive Automobile Liability, Bodily Injury, Property**

**Damage: General Aggregate Limit \$1,000,000**

**Each Occurrence Limit \$500,000**

Responder agrees that with respect to the above required insurance, The Village of Tinley Park shall:

- Be named as additional insured **by endorsement** as their interest may appear;
- Be provided within thirty (30) days notice, in writing, of cancellation or material change; and
- Be provided with Certificates of Insurance evidencing the above required insurance, prior to commencement of this Contract and thereafter with certificates evidencing renewals or replacements of said policies of insurance at least fifteen (15) days prior to the expiration of cancellation of any such policies.

#### 15. Change in Status:

The Contractor shall notify The Village of Tinley Park immediately of any change in its status resulting from any of the following: (a) Contractor is acquired by another



party; (b) Contractor becomes insolvent; (c) Contractor, voluntarily or by operation law, becomes subject to the provisions of any chapter of the Bankruptcy Act; (d) Contractor ceases to conduct its operations in normal course of business. The Village of Tinley Park shall have the option to terminate its contract with the vendor immediately on written notice based on any such change in status.

**16. Precedence:**

Where there appears to be variances or conflicts, the following order of precedence shall prevail: The Owner and Contractor Agreement; The Village of Tinley Park Request for Proposals; and the Contractor's Response to RFP.

**17. Submittal and Evaluation Factors:**

The contract will be awarded to the Contractor determined by the Village of Tinley Park to be in the best interest of the Village, who meets or exceeds the criteria and provisions sought by the Village. The Village reserves the right to reject any or all responses or to waive any details in the responses received whenever such rejection or waiver is in the best interests of the Village. The Village also reserves the right to reject the RFP of a Contractor who has previously failed to satisfactorily perform a contract. The Village of Tinley Park reserves the right to award the contract to a Contractor who is not the lowest cost; however, cost is an important factor in the selection of a Contractor.

In determining the most qualified responder, the following criteria will be considered by the Village:

- A. Ability to complete required work on a regular basis in a timely manner;
- B. Experience with other Municipalities;
- C. Demonstrated success at comparable sites;
- D. Communication with the Village; and
- E. References.

## **II. BACKGROUND**

Following is a list of sites that have been identified by the Village as priority sites that need restoration, enhancement and/or management. See the site maps attached to this document for a clarification of the areas of work.

**Cork Rd Pond**-This 2.7-acre wet bottom pond area located just west of Cork Road is connected to a creek line heading south west that leads into other bodies of water. There are residential backyards that outline the north and east sides of the pond. This contract includes the sloped perimeter areas around the pond and the pond itself, but not the creekline or the larger area to the west. The pond has occasional algae blooms and had regular aquatic management and treatments in recent years. The shorelines have some erosion and invasive species management is needed. Those areas have only had sporadic stewardship activities in recent years.

**Pond G** - This 8.8 acre wetland pond is located along the west side of 80<sup>th</sup> Ave just south of 171<sup>st</sup> St. In 2012, a restoration project was completed, and the site is now fully vegetated with native wetland plants and some cattail areas. Site stewardship was pretty consistent in recent years. It was just burned in April 2018. The site needs ongoing stewardship of the native plant communities and to control the cattail areas to prevent them from spreading.

**Settler's Pond East-** This wet bottom pond is 8.5 acres, located on the east of Sayre Ave in between 177<sup>th</sup> St and 179<sup>th</sup> St. This pond has had consistent restoration work and burns in recent years. The site needs regular stewardship to continue. It is scheduled for a burn in spring 2018.

**Settler's Pond West-** This wet bottom pond is 7.6 acres, located on the west side of Sayre Ave in between 177<sup>th</sup> St and 179<sup>th</sup> St. This pond has not had much in the way of restoration work or burns in recent years. We anticipate a workload focused on invasive species management for at least an entire growing season before enhancements can begin.

**Tinley Park Public Library Prairie and Detention Basin-** This site has a 3.1 acre prairie and a 3.5 acre detention basin area with naturalized perimeters. A restoration project began in 2015 and the site has received ongoing enhancements and stewardship since that time, so the native plant communities are really just starting to establish. This site is managed by the Tinley Park Public Library, which is a separate decision making body from VOTP. The site was last burned in 2016.

**Tinley Terrace-** A 2-acre, wet bottom pond, surrounded by a substantial naturalized edge, located behind the homes on the south side of Terrace Dr between 66<sup>th</sup> Av and Skyline Dr. The shorelines need invasive species to be controlled, but there are some desirable native plants present as well. In past years this site has received aquatic treatments to prevent fish kills and algae blooms. The site receives a lot of complaints and interest from the surrounding neighbors, so aesthetics are a big concern.

**Town Point Basin-** This is a 3.5-acre dry bottom pond, with pockets of naturalized vegetation lining some of the upland portions, and two interpretive signs. It's located just SE of the intersection of 179<sup>th</sup> St and 88<sup>th</sup> Av. The site has not had consistent stewardship in recent years and some areas have high concentrations of invasive species. There are lots of resident complaints, particularly about aesthetics.

### **III. SCOPE OF SERVICES**

#### **SITE PREPARATION**

1. Brush Clearing and Tree Thinning:
  - a. Description: Per hour unit cost to clear non-native brush, non-native trees and/or select native trees for the purposes of ecosystem restoration. Pricing must include cutting plants by hand flush to the ground, applying herbicide to the cut stump immediately after cutting, disposal of the cut material off-site and execution of re-sprout treatments until performance criteria are met. Maximum size of trees requiring removal under this line item will be four inches diameter at breast height (4" DBH). Stump treatments must be applied using a sponge applicator unless otherwise approved in writing by the Village.
  - b. Products:

- i. For Honeysuckle species (*Lonicera spp.*):
    - 1. Razor Pro or Equivalent (Glyphosate 41.0%)<sup>1</sup>
    - 2. Aquaneat or Equivalent (Glyphosate 53.8%, Aquatic Labeled)<sup>1</sup>
  - ii. For all other species:
    - 1. Tahoe 4E or Equivalent (Triclopyr Ester 61.6%)<sup>3</sup>
  - iii. With adequate documentation of efficacy and appropriateness, alternate herbicides may be utilized only with written approval by the Village.
- c. Performance: Ninety-nine percent (99%) of all target species stems removed and/or treated with appropriate herbicide resulting in Ninety-nine percent (99%) plant death.

<sup>1</sup>Basic Herbicide Product Classification

<sup>2</sup>Premium Herbicide Product Classification

<sup>3</sup>Specialty Herbicide Product Classification

## 2. Boom-Spray Herbicide Application:

- a. Description: Per square yard unit cost to apply non-selective herbicide mixtures using a boom spray or pistol spray application in preparation of planting operations. Pricing must include layout of proposed application area with pin flags, the initial application and any follow-up applications required to meet the performance criteria.
- b. Products:
  - i. Razor Pro or Equivalent (Glyphosate 41.0%)<sup>1</sup>
  - ii. Aquaneat or Equivalent (Glyphosate 53.8%, Aquatic Labeled)<sup>1</sup>
  - iii. With adequate documentation of efficacy and appropriateness, alternate herbicides may be utilized only with written approval by the Village.
  - iv. Herbicides to be mixed by the Contractor in desired concentrations for the vegetation to be treated.
- c. Performance: Ninety-nine percent (99%) brown out of treated vegetation.

<sup>1</sup>Basic Herbicide Product Classification

<sup>2</sup>Premium Herbicide Product Classification

<sup>3</sup>Specialty Herbicide Product Classification

## 3. Shoreline Grading:

- a. Description: Per linear foot unit cost to re-grade pond shorelines that exhibit up to twenty four inches (24") of vertical cut erosion. Pricing must include layout of the proposed grading and soil distribution areas using pin flags, de-watering (if required), grading of soil by hand or by use of appropriate machinery (i.e. mini excavator), finish grading in preparation for planting, removal of clods and debris, and re-distribution of excess soil on-site.

- b. Products: N/A
  - c. Performance: Shoreline provides a smooth transition from top of slope into the water; large clods, roots, stones, sod, and other debris are not present; and excess soil has been re-distributed on site.
4. Soil Tilling:
- a. Description: Per square yard unit cost to till an area in preparation for planting. Pricing must include layout of the tilling area using pin flags, tilling, and surface preparation (i.e. raking or dragging).
  - b. Products: N/A
  - c. Performance: Minimum tilling depth of four inches (4"); large clods, roots, stones, sod and other debris are not present.
5. Soil Scarification:
- a. Description: Per square yard unit cost to scarify an area in preparation for planting. Pricing must include layout of the area to be scarified using pin flags and
  - b. Products: N/A
  - c. Performance: Disruption of a minimum seventy five percent (75%) of the soil surface no greater than one-half inch (1/2") deep.

## **SOIL AMENDMENTS**

6. Soil Testing:
- a. Description: Per sample unit cost to test soils within a designated area for physical and nutritional analysis. Pricing must include soil sampling, soil testing (including any delivery fees), soil test analysis report with any soil amendment recommendations.
  - b. Products:
    - i. Soil testing professional shall be:  
Dirt-N-Turf Consulting, Inc.  
542 Clark Street  
Hinckley, IL 60520  
Contact: David Marquardt, BSPC  
PH: 630-251-1511  
e-mail: [dave@dirty-n-turf.com](mailto:dave@dirty-n-turf.com)  
-or approved substitution
  - c. Performance: Submit soil test analysis report and corresponding fertilizer/amendment recommendations to the Village within thirty (30) days of sampling.

7. Fertilizers, applied:

- a. Description: Per pound unit cost to apply soil fertilizers and/or amendments as recommended by the soil test analysis report. Pricing must include application of the recommended product utilizing a rotary or drop-style spreader.
- b. Products:
  - i. Gypsum: Agricultural grade, minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 (0.30-mm) sieve.
  - ii. Hi-Cal Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
    - 1. Class: T, with a minimum of 99 percent passing through No. 8 (2.36-mm) sieve and a minimum of 75 percent passing through No. 60 (0.25-mm) sieve.
    - 2. Provide lime in form of ground dolomitic limestone.
  - iii. Milorganite 6-4-0
  - iv. Monoammonium Phosphate (MAP) 11-52-0
  - v. Sulphate of Potash (SOP) 0-0-50
  - vi. UMAXX Water Soluble Green Stabilized Fertilizer 46-0-0
- c. With adequate documentation of efficacy and appropriateness, alternate fertilizers and/or soil amendments may be utilized only with written approval by the Village.
- d. Performance: Even distribution of fertilizers and/or amendments as specified by the soil analysis report.

**PLANTING OPERATIONS**

8. Seed, Installed:

- a. Description: Per square foot unit cost for the installation of the specified native seed mixes found as an appendix to these RFP documents. Pricing must include preparation of a native seed evaluation matrix submittal for seed approval prior to installation, inspection of native seed prior to installation, layout of seeding areas using pin flags, and the installation of native seed. The seed pricing must also include cover crop seed and mycorrhizal inoculants as incidental costs to the line item.
  - i. Optimal Installation Timeframe
    - 1. Spring: March 1st – June 30th
    - 2. Dormant: September 15th – October 31<sup>st</sup>
  - ii. Alternate seeding installation times must be approved in writing at the discretion of the Village prior to planting. The approval of an alternate seeding installation time shall not relieve the Contractor from their performance obligations as outlined in the performance section of this document. All performance criteria shall be enforced.

- iii. Seed installation methods must be approved in writing by the Village, but generally must follow one of the following processes:
  - 1. For inter-seeding into prepared existing vegetation seed shall be drilled by a modified\* 3-box rangeland type no-till drill designed to plant native grass and forb seed (such as the Truax No-Till Drill) if the soil is firm enough. [\*Prior to seeding, detach the bottom portion of half (1/2) of the small box seeding tubes so that a portion of the seed is surface sown instead of drilled into the soil]
  - 2. For tilled planting areas, newly graded sites or other loose soil conditions seed shall be drop-seeded by a 3-box rangeland type dropseeder designed to plant native grass and forb seed (such as the Truax Trillion or Belco Greenscape seeder).
  - 3. If site conditions prohibit the use of mechanized seeding equipment, broadcasting of seed is acceptable on exposed soil only. If seed is broadcast, it shall be mixed with an equal amount of inert filter (such as sand, vermiculite, rice hulls, etc.) to enable an even distribution of seed. Seed shall be broadcast in three (3) separate applications:
    - a. Broadcast half (1/2) of the specified native grass seed first. Drag the seeding area utilizing a rake or similar equipment, work native grass seed into the soil achieving a final planting depth between 0.25" (1/4") – 0.5" (1/2").
    - b. Broadcast remaining native grass seed, cover crop and one-third (1/3) of the remaining seed mixture (sedges/rushes/forbs), reserving 100% of any species indicated as "surface sown" in Appendix-B. Lightly drag the seeding area utilizing a rake or similar equipment, working the native seed into the soil achieving a final planting depth between 0.0625" (1/16") – 0.25" (1/4").
    - c. Broadcast remaining seed directly atop prepared seedbed. Do not drag or rake.
    - d. Where site conditions allow it, roll or cultipack broadcast seeded areas immediately after installation to ensure good seed-to-soil contact.

- b. Products (See Appendix):
  - i. Transitional Buffer Seed Mix
  - ii. Mesic-Dry Prairie Seed Mix
  - iii. Wetland Seed Mix
  - iv. Wet-Mesic Shade Seed Mix
  - v. Mesic-Dry Shade Mix
  - vi. Seed Quality Requirements:

1. All seeds shall comply with the Federal Seed Act and shall be of straight species, no horticultural varieties shall be acceptable.
2. Contractor shall provide a fresh clean crop of the specified seed species. All native seed supplied shall be from seed lots tested by a qualified seed testing laboratory, certificates for each lot of each species tested must be supplied to the Village directly from the testing laboratory.
  - a. "Bearded" forb species seed (Aster, Solidago, Liatris, etc.) shall be provided as defluffed/debearded seed. Legume species (Dalea, Lespedeza, Desmodium, etc.) shall be provided as de-hulled seed.
  - b. All native seed shall be provided on a pure live seed (PLS) basis. Seed supplied to the site shall contain documentation of PLS testing and, if required, adjustment of the seed weights to provide 100% PLS standards. If rounding is required during PLS adjustment calculations, the adjustment shall always be rounded up. PLS adjustment must be based on seed test results dated no more than 12 months prior to the anticipated seed installation date. Minimum PLS percentage for any species shall be 70%.
  - c. Seed containing noxious weeds will not be accepted. Seed containing weed seed in excess of 0.25% will not be accepted.
  - d. All seed shall be shipped in single species containers directly from the supplier and shall be mixed at the time of planting by the Contractor. At no time shall seed species be mixed by the supplier unless approved in writing by the Village.
  - e. All seed shall be furnished in transparent sealed containers unless otherwise approved in writing by the Village.
  - f. Seed packaging shall be legibly tagged as to supplier name & address, project name, seed mix name, species scientific name, species common name, lot number, specified quantity (adjusted for planting area), and PLS adjusted quantity (adjusted for planting area).
  - g. Seed that has become wet (unless as a result of stratification), moldy, or otherwise damaged in transit or storage will not be acceptable.
  - h. All Native Seed mixes will be accompanied by a cover crop consisting of Avena sativa (Seed Oats) at a rate of twenty (20) pounds per acre with Spring planting or ReGreen™ (Wheat x Wheatgrass hybrid) cover crop at a rate of twenty (20) pounds per acre for Fall plantings.
  - i. All Native Seed mixes will be accompanied by a granular form of endomycorrhizal inoculum at a minimum rate of forty (40) pounds per acre and rhizobia inoculum for the appropriate plant species at rates recommended by the native plant nursery. Contractor shall provide proof that the

Mycorrhizal inoculum utilized contains a majority of live spores.

c. Performance:

i. General:

1. Final determinations of species dominance, richness, coverage and/or distribution are subject to verification by the Village.
2. Final determinations of plant vigor are subject to verification by the Village.
3. Zero (0) aggressive native species, non-native species, nor invasive species shall be allowed to become established on the site and/or be allowed to colonize.
4. With the exception of planted cover crops, none of the top five (5) dominant species within any planting area shall be aggressive native, non-native or invasive species (See Appendix). Dominance shall be determined by ocular assessment using meander methodology.
5. Seed installations that receive Substantial Completion prior to July 15<sup>th</sup> will be considered undergoing one full growing season in October of the same year. Installations receiving Substantial Completions after July 15<sup>th</sup> will not be considered having undergone one full growing season until June 15<sup>th</sup> the following year.

ii. Within three (3) months of seed installation or by June 1st of the following year if seed installation is completed in the fall:

1. Total vegetative aerial cover in all areas seeded with cover crop shall be greater to or equal than seventy-five percent (75%) as measured using meander methodology.

iii. By the end of the first (1st) growing season, in addition to fulfilling the above:

1. Total vegetative aerial cover in all Native Seed areas shall be greater to or equal to ninety percent (90%) as measured using meander methodology.
2. Twenty-five percent (25%) of the Native Seed species installed within each plant community shall be alive and apparent.

iv. By the end of the second (2nd) growing season, in addition to fulfilling the above:

1. Fifty percent (50%) of the Native Seed species installed within each plant community shall be alive and apparent. This standard does not apply to emergent or streamside communities.
2. Native vegetative aerial cover within Native Seed planting areas shall be at least forty percent (40%) as measured using meander methodology.

v. By the end of the third (3<sup>rd</sup>) growing season, in addition to fulfilling the above:

1. General:



- a. Based on the results of the meander survey, the Native Mean C-Value and the Native FQI shall increase each successive year after planting.
  - b. There shall be no area(s) greater than 0.25 m<sup>2</sup> that is devoid of vegetation.
  - c. There shall be no rills, gullies or other evidence of significant or on-going erosion or areas of high erosion potential present throughout the project area.
2. Native vegetative aerial cover within Native Seed planting areas shall be at least eighty-five percent (85%) as measured using meander methodology.
3. To ensure species richness at the local level, any given square meter (1.0 m<sup>2</sup>) within Native Seed planting areas shall contain a minimum of three (3) different acceptable species and shall include at least one (1) species seeded as specified.
4. The following floristic quality standards shall be achieved for each Native Seed plant community:
  - a. Dry-Mesic Prairie
    - i. Total FQI – 21.3
    - ii. Total Mean C Value – 2.8
    - iii. Native FQI – 28.4
    - iv. Native Mean C Value – 4.6
  - b. Wet-Mesic Prairie
    - i. Total FQI – 16.9
    - ii. Total Mean C Value – 2.1
    - iii. Native FQI – 22.5
    - iv. Native Mean C Value – 3.5
  - c. Wetland
    - i. Total FQI – 16.5
    - ii. Total Mean C Value – 2.1
    - iii. Native FQI – 22.0
    - iv. Native Mean C Value – 3.5
  - d. Mesic-Dry Shade
    - i. Total FQI – 22.5
    - ii. Total Mean C Value – 2.4
    - iii. Native FQI – 29.9
    - iv. Native Mean C Value – 4.0
  - e. Wet-Mesic Shade
    - i. Total FQI – 18.6
    - ii. Total Mean C Value – 2.2
    - iii. Native FQI – 24.8
    - iv. Native Mean C Value – 3.6

9. Plugs, Installed:

- a. Description: Per plant unit cost for the installation of native plugs. Pricing must include inspection of plant material prior to installation, layout of planting area

using pin flags, installation of plants, initial watering after planting, regular watering during establishment (6-8 weeks following installation), establishment plug counts as part of performance monitoring, and replacement planting until the performance criteria are met.

- i. Optimal Installation Timeframe
  - 1. April 1st – June 15th
- ii. Alternative Installation Timeframe
  - 1. June 15th –September 30th: Planting of herbaceous plants during this period can only be conducted if consistent irrigation is provided.
  - 2. October 1st – March 31st: Planting of herbaceous plants during this period can only be conducted if the shrink-swell potential of the soil is low.
- iii. Alternate herbaceous plant installation times must be approved in writing at the discretion of the Village prior to planting. The approval of an alternate herbaceous plant installation time shall not relieve the Contractor from their performance obligations as outlined in the performance section of this document. All performance criteria shall be enforced.

b. Products:

- i. Common Species: Consists of native species fairly common within the industry and generally priced similarly. See Appendix for a list of Common Species.
- ii. Specialty Aquatic Species: Consists of native aquatic species that are more difficult for nurseries to grow, require larger growing containers, and/or are more difficult for Contractors to install typically making them more costly than Common Species plugs. See Appendix for a list of Specialty Aquatic Species.
- iii. Specialty Woodland Species: Consists of native woodland species that are more difficult for nurseries to grow and/or require larger growing containers typically making them more costly than Common Species plugs. See Appendix for a list of Specialty Woodland Species.

iv. Plant Quality Requirements:

- 1. All plant materials, methods, etc. are to conform to the Standards of the American Association for Nursery Stock (ANSI Z60.1-2004). In the event there is a discrepancy between these standards and this Document, the most restrictive requirement shall govern. Following are acceptable standards for plugs in the sizes as specified:
  - a. **2" Potted Material** – provided in plug trays that are configured to grow plugs at least 2" in diameter/square by 4-1/2" deep (minimum 11.5 in<sup>3</sup> dry soil volume), unless otherwise approved in writing by the Village.

- b. **1 Quart Material** – provided in thermo or vacuum formed pots that are at least 4-3/8" diameter/square by 4-3/4" deep (minimum 57.8 in<sup>3</sup> dry soil volume), unless otherwise approved in writing by the Village.
- 2. All plants shall be of straight species, no horticultural varieties shall be acceptable unless otherwise specified.
- 3. Herbaceous perennial plant containers shall be legibly tagged as to name and size of container and shall be true to species.
- 4. All plants shall be alive, healthy, hydrated, and in a vigorous growing condition at the time of delivery.
- 5. All plants will be inoculated with a broad-spectrum mycorrhizal fungi mix unless otherwise approved by the Village. All leguminous species must be inoculated with the proper strain of rhizobia inoculum.
- 6. For aquatic, ephemeral or other specific types of native species, Bare Root stock may be utilized upon written approval by the Village.
- 7. Contractor shall provide written documentation to the Village as to the source of supply, quantities, and species by scientific & common name of the herbaceous perennial plants ordered prior to installation (e.g. supplier's invoice).

c. Performance:

i. General:

- 1. Final determinations of species dominance, richness, coverage and/or distribution are subject to verification by the Village.
- 2. Final determinations of plant vigor are subject to verification by the Village.
- 3. Plant installations that receive Substantial Completion prior to July 15<sup>th</sup> will be considered undergoing one full growing season in October of the same year. Installations receiving Substantial Completions after July 15<sup>th</sup> will not be considered having undergone one full growing season until July 15<sup>th</sup> the following year.

ii. By the end of the first (1st) growing season:

1. Native Herbaceous Planting Areas:

- a. Contractor shall provide establishment plug counts thirty (30) calendar days prior to the end of the first full growing season for each plug planting area. Plug count methodology shall be submitted to the Village for approval prior to any plugs being installed. Plug counts shall be submitted to the Village for review and will be field verified by the Village prior to final acceptance.
- b. No less than ninety percent (90%) of any native herbaceous plant material installed shall be alive and in vigorous condition, this standard shall apply to each planting area where native herbaceous plants are installed. If less than ninety percent (90%) of any native herbaceous plant material installed survive the first full growing season, the plants

shall be replaced so that the ninety percent (90%) criteria is achieved within each applicable planting area.

10. Herbivory Protection, Installed:

- a. Description: Per linear foot unit cost for herbivory protection fencing when needed to protect installed plugs in or adjacent to bodies of water. Pricing must include the installation of a double row of fencing (i.e. 10 LF of line item is actually 20 LF of fencing), regular maintenance of fencing during plant establishment and removal of fencing after plants are established or as otherwise directed by the Village.
- b. Products:
  - i. Herbivory protection fencing shall consist of:
    - 1. Rail steel T-Posts 5.5' high w/fin
    - 2. Black UV stabilized poultry netting
    - 3. Nylon zip-ties, 7" – 8"
    - 4. Nylon rope
- c. Performance:
  - i. Herbivory protection fencing shall be erected around all herbaceous plants that have been installed in areas where there is a potential for waterfowl (especially geese) depredation, such as retention basins or other planting areas adjacent to open water. Install herbaceous plants and fencing in 100' – 200' lengths, leaving 4-6' wide openings between fencing ends to allow access to the water for people and wildlife during the establishment period.
    - 1. Install steel T-posts @ twelve (12) feet on-center (maximum). Drive posts into the ground so that the fencing will extend at least two (2) feet in height above the tops of installed herbaceous plants.
    - 2. Attach black UV stabilized poultry netting securely to the steel T-posts with plastic zip-ties.
    - 3. Attach nylon rope to the top of steel T-posts in a zigzag pattern to prevent aerial landings by waterfowl.
    - 4. Contractor shall disassemble and remove all fencing from the project site after two (2) complete growing seasons. The Village may request removal of the fencing prior to the two (2) year term ending.
    - 5. Contractor shall maintain the fencing in a functional and aesthetic condition. The Contractor shall make all required, reasonable repairs and/or replacements in a timely manner.

11. Erosion Blanket, Installed:

- a. Description: Per square yard unit cost for the installation of erosion blanket to protect newly seeded areas. Pricing must include installation of blanket as per the manufacturer's recommendation and maintenance of the blanket for twelve (12) months.

b. Products:

- i. Single Net Straw with natural fiber netting, such as:
  - 1. S-75BN  
North American Green  
Evansville, IN 47725  
PH: 800-772-2040  
[www.nagreen.com](http://www.nagreen.com)  
-or approved substitution
- ii. Double Net Straw with natural fiber netting, such as:
  - 1. S-150BN  
North American Green  
Evansville, IN 47725  
PH: 800-772-2040  
[www.nagreen.com](http://www.nagreen.com)  
-or approved substitution
- iii. Double Net Straw/Coconut with natural fiber netting, such as:
  - 1. SC-150BN  
North American Green  
Evansville, IN 47725  
PH: 800-772-2040  
[www.nagreen.com](http://www.nagreen.com)  
-or approved substitution

- c. Performance: Install blanket as per manufacturer's recommendation and maintain in functional condition for twelve (12) months.

## MANAGEMENT

Contractors shall perform maintenance, management, monitoring, and progress reporting throughout the duration of the contract. Monitoring shall be ongoing and progress reporting shall be done on a monthly basis. Invasive and non-native species shall be controlled by appropriate management practices. Management activities should be planned in response to issues identified in periodic monitoring efforts performed by the Contractor. Specific maintenance and management needs will be determined in the field, and in consultation with VOTP and their assigned representatives. Anticipated management activities include:

12. Watering of plantings beyond establishment period in drought conditions:

- a. Description: Per hour unit cost for watering plantings during drought conditions or as otherwise directed by the Village. Pricing must include transporting water to the site (when required) and applying water to designated plantings.
- b. Products:
  - i. 15 Gallons of clean water per 100 square feet of planting area (similar to approximately 0.25" of rainfall). Water shall be free of substances harmful to the growth of vegetation.

c. Performance:

- i. Watering operations shall be conducted overnight beginning after 7:00 p.m. or in the morning hours ending no later than 10:00 a.m.

13. Mowing:

- a. Description: Per hour unit cost for mowing vegetation within planting areas to eliminate standing biomass and/or for weed control. Pricing must include regular site inspections by the Contractor to determine mowing needs, mowing, cutting/bagging of flower/seed heads of non-native species due to the Contractor not mowing in a timely manner, and removing any areas of thatch greater than one-half inch (1/2") thick unless otherwise approved by the Village. Mowing heights must be discussed with the Village prior to each occurrence at each site.
  - i. Selective Mowing: Represents the use of hand held brush cutters, push mowers or hand pulling to selectively mow targeted species within an established planting.
  - ii. Non-Selective Mowing: Represents the use of tractor mounted mowers to cut large areas of vegetation with selectivity.
- b. Products: N/A
- c. Performance: Mowing must be conducted to achieve set mowing heights as approved by the Village for each occurrence. Mowing heights may vary from site to site and over time at a single site depending upon site conditions. Mowing must not result in thatch thicker than one-half inch (1/2") and must not result in knock-down instead of severed vegetation.
  - i. It is the Contractor's responsibility to monitor the site in order to determine when mowing is required. However, if the Village determines at any time that a project site requires mowing they will notify the Contractor in writing. No later than three (3) business days following notification, the Contractor shall conduct the requested mowing. If Contractor fails to mow the area in the allotted time, the Village may conduct the mowing as necessary and apply any associated fees as a deduct to the contract.

14. Herbicide Products, Applied:

- a. Description: Per gallon unit cost for the application of mixed herbicides to existing target vegetation. Target species must be discussed with the Village prior to herbicide application occurring. Pricing must include
- b. Products:
  - i. Razor Pro or Equivalent (Glyphosate 41.0%)'
  - ii. Aquaneat or Equivalent (Glyphosate 53.8%, Aquatic Labeled)'
  - iii. Weeder 64 or Equivalent (2, 4-DAmine 46.8%)'

- iv. Agri Star or Equivalent (Clethodim 26.4%)<sup>2</sup>
- v. Tahoe 3A or Equivalent (Triclopyr Amine 44.4%)<sup>2</sup>
- vi. With adequate documentation of efficacy and appropriateness, alternate herbicides may be utilized only with written approval by the Village.
- vii. Herbicides to be mixed by the Contractor in desired concentrations for the vegetation to be treated.
- viii. All herbicides to be mixed with a marker dye, such as Signal, Spimax or approved equal.

- c. Performance: Ninety-five percent (95%) reduction in stems of target vegetation.

<sup>1</sup>Basic Herbicide Product Classification

<sup>2</sup>Premium Herbicide Product Classification

<sup>3</sup>Specialty Herbicide Product Classification

#### 15. Professional Muskrat Trapping:

- a. Description: Per trap unit cost for professional wildlife management services to trap muskrats at sites with ponds. Pricing must include trap setup, regular trap inspections, removal of up to five (5) animals per trap and trap removal. Wildlife professional must be licensed by IL DNR.
- b. Products: N/A
- c. Performance: Notify the Village when traps have been set and when traps have been removed. Submit a report to the Village once traps have been removed indicating how many muskrats were removed from each site.

#### 16. Professional Monitoring & Reporting:

- a. Description: Per year unit cost for professional monitoring and reporting services to document and track the restoration progress of each site. Pricing must include:
  - i. Monthly Progress Reporting
    - 1. At the end of each month the Contractor shall submit to the Village a progress report documenting all installation and/or management activities that were conducted, when activities were completed, what products were used and in what quantity, general observations of the vegetation performance including problem areas, and the Contractor's scheduled activities for the following month.
  - ii. Annual Vegetation Monitoring
    - 1. Establish a minimum of one (1) permanent photo point for each plant community within each planting area. Permanent photo points shall be located by GPS, all data points shall be provided to the Village.

2. One (1) meander survey in June and one (1) meander survey in September/October. Surveyors shall track their meander paths using sub-meter GPS equipment. Recorded meander path data shall be mapped and overlaid upon the project area site map and submitted with the annual report.
3. One (1) written report submitted to the Village by February 15<sup>th</sup> following each monitoring season, at a minimum annual monitoring reports shall include the following information:
  - a. Introduction
    - i. Site history leading up to the current project.
    - ii. Site description, including a street address (if applicable), County, Section, Township, and Range.
    - iii. A site location map.
    - iv. Permit numbers & Department/County of issue (if applicable).
  - b. Methods
    - i. Summarize the methods used for monitoring, include the survey dates.
  - c. Results
    - i. Floristic Quality Assessment Data for the Baseline Survey.
    - ii. Floristic Quality Assessment Data for the Meander Survey:
      1. Native Mean Coefficient of Conservatism Value (C).
      2. Native Floristic Quality Index (FQI).
      3. Native Wetness Coefficient (W).
      4. A comparison table that lists previous years' data with current year's data.
    - iii. Live Plant Material:
      1. Report on the condition of any native herbaceous live plant material installation areas. Document survivability.
      2. Report on the condition of any native woody
  - d. Discussion
    - i. Discuss in detail the work performed as part of on-going stewardship during the previous calendar year.
    - ii. Compare the current year's data with data from the previous year(s).
    - iii. Compare current year's results against the performance criteria.
    - iv. Describe any deficiencies in the current year's stewardship activities that are hindering the sites ability to meet the performance criteria and propose detailed corrective actions.



- v. Discuss in detail the stewardship activities that will occur in the upcoming year.
- e. Appendices
  - i. Species lists for installation and/or enhancement seeding/planting.
  - ii. Site Photographs.
  - iii. Floristic Quality Assessment data tables.
  - iv. Original planting plan and species lists
  - v. Site plan that graphically delineates deficiencies and locates any recommended remediation items.
  - vi. Site plan that shows GPS path of each meander survey conducted.

b. Products:

- i. Project Ecologist: The Contractor shall designate an employee to be the Project Ecologist (PE). This person shall be responsible for timely completion of all vegetative monitoring and preparation/submittal of annual monitoring reports to the Village. At a minimum the PE must have a bachelor's degree in natural resources, ecology, biology, or a related field, five (5) years of documented experience with Midwestern ecosystems/habitat types and three (3) years of field experience in vegetation monitoring. PE must also demonstrate the following:
  - The skills to competently identify invasive and native species, including grasses, forbs, shrubs and trees during the dormant and growing seasons.
  - Working knowledge of vegetation sampling protocol, including both meander and transect sampling methodologies.
- c. Performance: Submit monthly progress reports and annual vegetation monitoring reports for each site as specified.

17. Prescribed Fire:

- a. Description: Per hour on-site unit cost to provide a fully trained and equipped prescribed fire crew to safely execute prescribed fire operations as required at each site. Pricing must include the preparation of a burn plan, acquisition of all required permits and/or other permissions, required notifications, required signage and/or traffic control.
- b. Products:
  - i. PERSONNEL/TRAINING
    - 1. It is required that the National Wildfire Coordinating Group (NWCG) standards be followed for all prescribed fire.
    - 2. Burn Boss: The burn boss shall have met the requirements of Illinois Law and Regulations (17 Illinois Admin. Code 1565.70) and

shall be recognized as a Certified Prescribed Burn Manager in compliance with the Illinois Prescribed Burning Act (525 ILCS 37); the certificate number and date of issue shall be provided on submitted resume. The burn boss must also demonstrate the following:

- Employed full-time directly by the submitting firm. Subcontractors, interns and seasonal employees are not acceptable.
  - Working knowledge and understanding of basic ecology and restoration principles.
  - A minimum of five (5) years conducting prescribed fire in the Midwest, in the fuel types present, and in projects of similar scope and size.
  - Documented experience writing burn plans and shall have led the execution of a minimum ten (10) prescribed fires.
  - Successful completion of the following National Wildfire Coordinating Group (NWCG) Wildland Fire Training Courses:
    - Intermediate Wildland fire Behavior (s290)
    - Basic Incident Command Systems (i100)
    - Fire Fighter Training (s130)
    - Wildland Fire Behavior (s190)
  - Successful completion of OSHA 30 hour safety training
  - Be current in CPR/First Aid
3. Burn Crew: All burn crew members must also demonstrate the following:
- Employed full-time directly by the submitting firm. Subcontractors, interns and seasonal employees are not acceptable.
  - Working knowledge and understanding of basic ecology and restoration principles.
  - A minimum of one (1) year documented experience conducting prescribed fire.
  - Documented experience working the line of a minimum three (3) prescribed fires.
  - Successful completion of the following National Wildfire Coordinating Group (NWCG) Wildland Fire Training Courses:
    - Fire Fighter Training (s130)
    - Wildland Fire Behavior (s190)
    - or a Prescribed Fire Training Program approved by the IL Prescribed Fire Council
  - Successful completion of OSHA 10 hour safety training
  - At least one (1) crew member, other than the Burn Boss, shall be current in CPR/First Aid

## ii. EQUIPMENT

1. The Contractor shall have in their possession at the time of responding the following equipment:
  - a. Two Type 6 Engines

- b. Two Type 7, 6 Wheel Drive ATV Engines
- c. One 500 Gallon Water Tender
- d. One Fire Pump capable of delivering sufficient water pressure at 1000 feet to suppress an escaped fire
- e. 1000 feet of collapsible 1" fire hose with nozzles
- f. Two-way radios for all personnel involved in the fire, whether on the line or not
- g. All necessary personal protective equipment for all personnel to meet NWCG guidelines

### iii. INSURANCE

- 1. "A" insurance rating with coverage for at least \$5,000,000.00 (five million) dollars of general liability insurance and excess general liability for "Prescribed Fire Operations" with a minimum \$2,000,000.00 (two million) per occurrence limit.
- 2. The Contractor shall provide the Owner/Owner's Representative with a certificate of insurance and name them as additional insured.
- 3. The Contractor shall list prescribed fire on the certificate as the activity covered.

### iv. PERSONAL PROTECTIVE EQUIPMENT (PPE)

- 1. In addition to PPE meeting NWCG guidelines, it is required that all fire personnel wear/carry the following:
  - a. Compass
  - b. Pre-tested, fully charged two-way radio with radio harness
  - c. Burn unit map
  - d. All underclothing of natural fiber – The danger of wearing polyester or other synthetic materials should be emphasized with anyone attending a burn.
- 2. For prescribed fires where the Safety Zone cannot be reached in 15 seconds, all personnel shall carry a fire shelter (for protection from flames and superheated gasses in the event of entrapment) and fussees (as a means to light a separate fire in order to burn out a safety zone ahead of the threatening fire front). A fussee shall not be considered an alternative to a fire shelter.
- 3. In addition to the equipment listed above, a fully stocked first aid kit shall be readily available to all burn crew members.
- 4. In addition to the equipment listed above, Burn Bosses shall carry a fully charged, fully operational cellular phone.
- 5. In addition to the equipment listed above, Crew Bosses (or their qualified designee on the crew) shall carry a fully functional weather kit.

### v. ROADSIDE VISIBILITY MATERIALS

- 1. Roadside visibility materials are essential if the fire is near a roadway. Contractor shall provide and install temporary warning signage along all roadways bordering the burn unit. Warning signage shall be visible by road traffic and shall display the Contractor's contact information. All signage on public roadways

shall conform to all applicable local and Illinois DOT signage specifications.

2. All fire personnel participating in a prescribed fire within close proximity of a roadway shall wear appropriate reflective work vests.
- c. Performance: Safely execute prescribed fire resulting in a minimum of 90% fuel consumption across 70% of the site measured by aerial coverage unless otherwise agreed upon in writing by the Village prior to ignition. Mop up shall result in 100% fire and smoke being extinguished prior to crews leaving the site. Contractor shall be available to return to the site within 2 hours following mop up operations to extinguish burning materials. The person selected to return to the site must have access to all crew members and equipment in the event that they must be re-deployed to the project site.

## **AQUATIC SERVICES**

**Contractors shall be responsible for the maintenance of ponds within the list of sites**

### **18. Aquatic Weed and Algae Management Services**

- a. Contractor shall provide weed management services through manual removal, biological methods, or chemical applications. The use of chemicals that may negatively impact fish or existing native aquatic or shoreline vegetation is not permitted unless otherwise approved by the Village.
- b. Any treatments for and management of hydrilla, cattails, duckweed, chara and watermeal can be addressed on an as needed basis through separate proposal as approved by the Village and are not included as part of the regular aquatic weed and algae management services

## **LIST OF SPECIES TO BE CONTROLLED**

See Appendix.

## **IV.SUBMITTAL REQUIREMENTS**

### **1. EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND WORK SITES:**

The prospective responder shall, before submitting a response, carefully examine the provisions of the contract. The responder shall inspect in detail the sites of the proposed work, investigate and become familiar with all the local conditions affecting the contract and fully acquaint themselves with the detailed requirements of construction.

## **2. NATURALIZED LANDSCAPE SPECIALIST PREQUALIFICATION:**

All work shall be performed by a native landscape contractor with at least seven (7) years of documented experience in site preparation, planting of native species and native landscape management, and shall be able to demonstrate their knowledge in the field. Qualifications are to be provided to the Village of Tinley Park through submittal of references, photographs, resumes, and/or other means that demonstrate the ability to install and/or manage naturalized landscapes.

## **3. PROJECT SITE NARRATIVES:**

As a requirement of this response, each Contractor is expected to visit each of the above sites to make an analysis of the work required to restore or maintain the site. Each responder is required to prepare a written narrative for review by the Village as part of their response submittal that details the responder's approach to each site. To ensure that each responder prepares a similar narrative the following general format shall be followed:

### **1. General Information:**

- a. Site Name
- b. Date of Site Visit
- c. General Observations of the Site: Generally describe the current condition of the site (i.e. is it relatively well-established with native vegetation? Are there significant weed problems? Is there evidence of muskrat damage? Are there other issues that are readily apparent that will influence your pricing?)

### **2. Restoration Needs:**

- a. Are restoration activities such as grading, seeding, planting, etc. necessary?
- b. If so, what specifically do you recommend?
- c. What is the proposed timing of restoration activities?

### **3. Maintenance Needs:**

- a. What are the top three maintenance needs and how do you propose to address them specifically?
- b. What are other secondary issues that need to be addressed through maintenance and in general how will you deal with them?
- c. How many maintenance visits do you anticipate making and what size of crew do you anticipate using during these visits?

## **4. PRICING TAB:**

Proposed pricing must be added to the attached detailed pricing tab sheet. The cost must be broken down for each area and category of work as detailed in the form. Unit pricing is required as a gauge for adding or subtracting scope items and/or sites from the approved work based on available budgets. However, the Village understands that there may be efficiencies to the Contractor based on pricing each site as a lump sum project amount. As such, the Village will require responders to price each project in total utilizing their unit pricing, while giving each responder the opportunity to offer cost savings to the Village on a project-by-project basis if a project site is awarded to the Contractor in full.

There will be one Contractor selected to implement the work required by this RFP. The number of sites awarded will be based on pricing received and the Village's budget, the selected Contractor is not guaranteed award of all sites and additional sites may be added to the contract based on the Contractor's submitted unit pricing.

#### **5. LICENSES:**

Responders shall also submit the names, experience and licenses for:

1. Commercial Pesticide Applicator(s) that shall be used for spraying, weeds and pest control.
2. Certified Prescribed Burn Manager and all fire line personnel.

#### **6. QUANTITY CHANGES:**

VOTP reserves the right to adjust item quantities at the unit prices provided.

### **V.REQUIREMENTS AND EXPECTATIONS**

The following are general requirements and expectations of the selected Contractor:

1. The Contractor shall perform all work in accordance with Federal, State, and Local laws, regulations, codes and ordinances;
2. The Contractor must be able to receive requests via e-mail.
3. The Contractor is expected to have all necessary supplies, equipment, personnel, and skills to complete the project in a timely manner;
4. Hours of work are 7:00 AM through 7:00 PM, Monday through Friday, and between 9:00 AM and 5:00 PM on Saturday, unless authorized at the sole discretion of VOTP.
5. The surrounding area shall have a neat, professional looking appearance upon completion of the job, and
6. All contractor employees shall wear suitable uniforms during the time they are on Village property or public ROW areas.

### **VI. CONTRACT TERMINATION:**

The Village of Tinley Park may, by written notice, and at any time, terminate the agreement if, in the judgment of the Village, the Contractor has failed to comply with the terms of the agreement. In the event of such termination, the Contractor shall be entitled to payment for work performed through the date notice is delivered to Contractor. No sums shall be owed to the Contractor for work performed after such notice is delivered.

## **ADDENDUM NO. 1**

Naturalized Stormwater Areas Maintenance  
2018-RFP-008  
Tinley Park, Illinois 60477  
July 30, 2018

This addendum forms part of the RFP Documents for the above named project and contains the following:

### **1) Changes**

- a. The Submission Date has been changed from Friday, August 10, 2018 at 12:00 pm to **Wednesday, August 8, 2018 at 12:00 pm.**
- b. The pricing forms were updated to include aquatic items.

### **2) Additions**

- a. The appendix with the list of species to be controlled has been provided.

### **3) Questions and Answers:**

Question 1: Is the contract expected to begin April 15th, 2019?

Response 1: 2019 will be the first full growing season of the contract, but the Village would like to take advantage of the opportunity to begin work in 2018 once the contract is in place in order to get a jump start on stewardship work that makes the most sense to complete that late in the season.

Question 2: How many years is the contract being awarded for/is there a renewal process?

Response 2: The initial contract period shall be for one year, and it is renewable.

Question 3: Are any contractors or village staff currently performing aquatic or terrestrial management on any of the priority sites or have any contractors or village staff performed work in 2018?

Response 3: There is not currently a contract of this type in place and Village staff do not currently perform this type of work. In spring 2018 Settler's Pond West had a prescribed burn and some teasel treatment, and Settler's Pond East had a prescribed burn and supplemental seeding. The library site had stewardship visits in April, May and mid-July.

### **4) Clarifications**

- a. One sentence fragment has been clarified under the Aquatic Services section of the scope. Contractors shall be responsible for the maintenance of ponds within the list of sites.

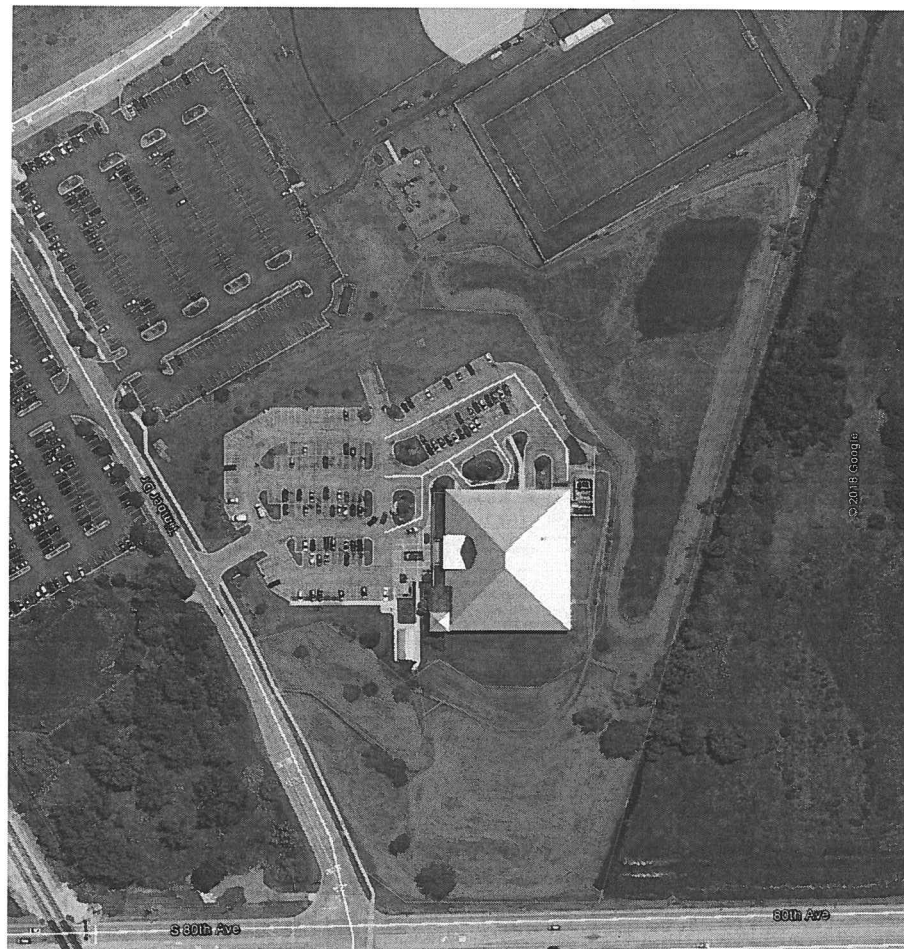
END OF ADDENDUM NO. 1

Location Maps, Project Number: 7698

Location Maps  
July 11, 2018



### Cork Road Pond



**Tinley Park Public Library Prairie and Detention Basin**



STORMWATER MANAGEMENT  
Location Maps, Project Number: 7698

July 11, 2018

**Tinley Terrace**

### Town Point Basin



886 south michigan avenue  
suite 1000 chicago, illinois 60605  
tel 312.427.7240 fax 312.427.7241  
www.site-design.com

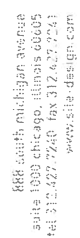
# STORMWATER MANAGEMENT AREAS, TINLEY PARK, ILLINOIS

Location Maps, Project Number: 7698  
July 11, 2018



Google Earth

Settlers Pond East & West



STORMWATER MANAGEMENT  
Location Maps, Project Number: 7698

Location Maps  
July 13, 2018



### Pond G



AQUATIC				
LINE ITEM DESCRIPTION	Unit(s)	Qty	Unit Price	Total Price
Aquatic weed and algae management services through manual removal, biological methods, or chemical applications.	SF	1,000	\$	\$

All prices shall include all costs for labor, mobilization, materials, equipment, fuel and/or maintenance of equipment as incidental costs to the main line item.

SITE PREPARATION				
LINE ITEM DESCRIPTION	Unit(s)	Qty	Unit Price	Total Price
Brush Clearing and Tree Thinning - Includes cutting, herbicide application, and removal/disposal of cut material	HOURL	1	\$	\$
Boom-Spray Herbicide Application - Includes initial herbicide application and any follow-up applications required to meet performance	SY	1,000	\$	\$
Shoreline Grading - Includes re-grading of eroded shorelines with up to 24" of vertical cut and distributing excavated soil on-site	LF	250	\$	\$
Soil Tilling - Includes elimination of standing dead biomass when required and collection/disposal of sticks, stones, clods or other debris	SY	1,000	\$	\$
Soil Scarification - Includes elimination of standing dead biomass when required and collection/disposal of sticks, stones, clods or other debris	SY	1,000	\$	\$

All prices shall include all costs for labor, mobilization, materials, equipment, fuel and/or maintenance of equipment as incidental costs to the main line item.

SOIL AMENDMENTS				
LINE ITEM DESCRIPTION	Unit(s)	Qty	Unit Price	Total Price
Soil Testing - Includes sample collection, laboratory testing and reporting of test results	EACH	1	\$	\$
Fertilizer: Gypsum, applied	LBS	50	\$	\$
Fertilizer: Hi-Cal Lime, applied	LBS	50	\$	\$
Fertilizer: Monoammonium Phosphate (MAP), applied	LBS	50	\$	\$
Fertilizer: Sulphate of Potash (SOP), applied	LBS	50	\$	\$
Fertilizer: UMAXX Stabilized Nitrogen, applied	LBS	50	\$	\$
Fertilizer: Milorganite, applied	LBS	50	\$	\$

All prices shall include all costs for labor, mobilization, materials, equipment, fuel and/or maintenance of equipment as incidental costs to the main line item.

Actual quantities will be based upon the results of soil tests. Contractor shall be paid for fertilizers based upon materials used at the provided unit price

PLANTING OPERATIONS				
LINE ITEM DESCRIPTION	Unit(s)	Qty	Unit Price	Total Price
Seed, Installed - Transitional Buffer Seed Mix, includes planting zone layout	SF	2,500	\$	\$
Seed, Installed - Mesic-Dry Prairie Seed Mix, includes planting zone layout	SF	2,500	\$	\$
Seed, Installed - Wet-Mesic Prairie Seed Mix, includes planting zone layout	SF	2,500	\$	\$
Seed, Installed - Wetland Seed Mix, includes planting zone layout	SF	2,500	\$	\$
Seed, Installed - Wet-Mesic Shade Seed Mix, includes planting zone layout	SF	2,500	\$	\$
Seed, Installed - Mesic-Dry Shade Seed Mix, includes planting zone layout	SF	2,500	\$	\$
Plugs, Common Species Installed - Includes planting zone layout and establishment watering	EACH	1	\$	\$
Plugs, Specialty Aquatic Species Installed - Includes planting zone layout and establishment watering	EACH	1	\$	\$
Plugs, Specialty Woodland Species Installed - Includes planting zone layout and establishment watering	EACH	1	\$	\$
Herbivory Protection Fencing, Installed - Includes installation of double row per linear foot, maintenance and removal following plant establishment	LF	100	\$	\$
Erosion Control Blanket - North American Green S75BN, installed	SY	100	\$	\$
Erosion Control Blanket - North American Green S150BN, installed	SY	100	\$	\$
Erosion Control Blanket - North American Green C125BN, installed	SY	100	\$	\$

All prices shall include all costs for labor, mobilization, materials, equipment, fuel and/or maintenance of equipment as incidental costs to the main line item.

MANAGEMENT				
LINE ITEM DESCRIPTION	Unit(s)	Qty	Unit Price	Total Price
Watering of Plantings beyond establishment period in drought conditions	HOUR	1	\$	\$
Mowing, Selective - Includes the use of handheld mowers and/or hand pulling	HOUR	1	\$	\$
Mowing, Non-Selective - Includes the use of large mowing equipment	HOUR	1	\$	\$
Basic Herbicide Products, mixed and applied	GALLON(S)	1	\$	\$
Premium Herbicide Products, mixed and applied	GALLON(S)	1	\$	\$
Specialty Herbicide Products, mixed and applied	GALLON(S)	1	\$	\$
Professional Muskrat Trapping - Includes trap setup, regular inspections, animal removal, and trap removal (Pricing is per trap set)	EACH	1	\$	\$
Professional Monitoring & Reporting	YEAR(S)	1	\$	\$
Prescribed Fire - Includes permits, burn plan preparation, notifications, burn break preparation, burning and mop-up	HOUR	1	\$	\$

All prices shall include all costs for labor, mobilization, materials, equipment, fuel and/or maintenance of equipment as incidental costs to the main line item.

Contractor Proposed Line Items - Contractor to add any additional items, tasks, etc. they feel are required for successful installation or maintenance. Use additional sheets if needed.				
LINE ITEM DESCRIPTION	Unit(s)	Qty	Unit Price	Total Price
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$
			\$	\$

All prices shall include all costs for labor, mobilization, materials, equipment, fuel and/or maintenance of equipment as incidental costs to the main line item.

PRIORITY SITE PRICING	
CORK ROAD POND	Bid Price
Site Preparation - Bid Price Based on Unit Pricing	\$
Soil Amendments - Bid Price Based on Unit Pricing	\$
Planting Operations - Bid Price Based on Unit Pricing	\$
Management - Bid Price Based on Unit Pricing	\$
Aquatic- Bid Price Based on Unit Pricing	\$
Other Contractor Proposed Items - Bid Price Based on Unit Pricing	\$
SUBTOTAL OF BID PRICE BASED ON UNIT PRICING	\$
Volume Discount Offered for Contractor's Recommended Approach	( - \$ )
Adjusted Bid Price	\$

POND G	Bid Price
Site Preparation - Bid Price Based on Unit Pricing	\$
Soil Amendments - Bid Price Based on Unit Pricing	\$
Planting Operations - Bid Price Based on Unit Pricing	\$
Management - Bid Price Based on Unit Pricing	\$
Other Contractor Proposed Items - Bid Price Based on Unit Pricing	\$
SUBTOTAL OF BID PRICE BASED ON UNIT PRICING	\$
Volume Discount Offered for Contractor's Recommended Approach	( - \$ )
Adjusted Bid Price	\$
SETTLER'S POND EAST	Bid Price
Site Preparation - Bid Price Based on Unit Pricing	\$
Soil Amendments - Bid Price Based on Unit Pricing	\$
Planting Operations - Bid Price Based on Unit Pricing	\$
Management - Bid Price Based on Unit Pricing	\$
Aquatic- Bid Price Based on Unit Pricing	\$
Other Contractor Proposed Items - Bid Price Based on Unit Pricing	\$
SUBTOTAL OF BID PRICE BASED ON UNIT PRICING	\$
Volume Discount Offered for Contractor's Recommended Approach	( - \$ )
Adjusted Bid Price	\$
SETTLER'S POND WEST	Bid Price
Site Preparation - Bid Price Based on Unit Pricing	\$
Soil Amendments - Bid Price Based on Unit Pricing	\$
Planting Operations - Bid Price Based on Unit Pricing	\$
Management - Bid Price Based on Unit Pricing	\$
Aquatic- Bid Price Based on Unit Pricing	\$
Other Contractor Proposed Items - Bid Price Based on Unit Pricing	\$
SUBTOTAL OF BID PRICE BASED ON UNIT PRICING	\$
Volume Discount Offered for Contractor's Recommended Approach	( - \$ )
Adjusted Bid Price	\$
TINLEY PARK PUBLIC LIBRARY PRAIRIE & DETENTION BASIN	Bid Price
Site Preparation - Bid Price Based on Unit Pricing	\$
Soil Amendments - Bid Price Based on Unit Pricing	\$
Planting Operations - Bid Price Based on Unit Pricing	\$
Management - Bid Price Based on Unit Pricing	\$
Aquatic- Bid Price Based on Unit Pricing	\$
Other Contractor Proposed Items - Bid Price Based on Unit Pricing	\$
SUBTOTAL OF BID PRICE BASED ON UNIT PRICING	\$
Volume Discount Offered for Contractor's Recommended Approach	( - \$ )
Adjusted Bid Price	\$

<b>TINLEY TERRACE</b>	<b>Bid Price</b>
Site Preparation - Bid Price Based on Unit Pricing	\$
Soil Amendments - Bid Price Based on Unit Pricing	\$
Planting Operations - Bid Price Based on Unit Pricing	\$
Management - Bid Price Based on Unit Pricing	\$
Aquatic- Bid Price Based on Unit Pricing	\$
Other Contractor Proposed Items - Bid Price Based on Unit Pricing	\$
SUBTOTAL OF BID PRICE BASED ON UNIT PRICING	\$
Volume Discount Offered for Contractor's Recommended Approach	( - \$ )
Adjusted Bid Price	\$
<b>TOWN POINT BASIN</b>	<b>Bid Price</b>
Site Preparation - Bid Price Based on Unit Pricing	\$
Soil Amendments - Bid Price Based on Unit Pricing	\$
Planting Operations - Bid Price Based on Unit Pricing	\$
Management - Bid Price Based on Unit Pricing	\$
Other Contractor Proposed Items - Bid Price Based on Unit Pricing	\$
SUBTOTAL OF BID PRICE BASED ON UNIT PRICING	\$
Volume Discount Offered for Contractor's Recommended Approach	( - \$ )
Adjusted Bid Price	\$

# Plugs, Common Species

Grasses, Sedges, & Rushes																
CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM COLOR	BLOOM TIME							TYPE
						Min-Max	Typical		A	M	J	A	S	O		
CALCAN	<i>Calamagrostis canadensis</i>	Blue Joint Grass	3	-5	OBL	2-5'	4	N/A								plug
CXBLAN	<i>Carex blanda</i>	Common Wood Sedge	1	0	FAC	1-2'	2	N/A								plug
CXCOMO	<i>Carex comosa</i>	Bristly Sedge	5	-5	OBL	2-3.5'	2	N/A								plug
CXCRIS	<i>Carex cristatella</i>	Crested Oval Sedge	4	-3	FACW	2-4'	3	N/A								plug
CXDAVI	<i>Carex davisii</i>	Awned Graceful Sedge	7	0	FAC	1.5-3'	2	N/A								plug
CXFRAN	<i>Carex frankii</i>	Bristly Cattail Sedge	8	-5	OBL	1-2.5'	2	N/A								plug
CXGRAL	<i>Carex gracillima</i>	Purple-sheathed Graceful Sedge	10	3	FACU	2-3.5'	3	N/A								plug
CXGRAN	<i>Carex granularis</i>	Pale Sedge	4	-3	FACW	1-2'	2	N/A								plug
CXGRAY	<i>Carex grayi</i>	Common Bur Sedge	7	-3	FACW	1-2.5'	2	N/A								plug
CXGRIS	<i>Carex grisea</i>	Wood Gray Sedge	2	0	FAC	1-2'	2	N/A								plug
CXLUPN	<i>Carex lupulina</i>	Common Hop Sedge	7	-5	OBL	1.5-3.5'	3	N/A								plug
CXMOLE	<i>Carex molesta</i>	Field Oval Sedge	2	0	FAC	1-2.5'	2	N/A								plug
CXMUSK	<i>Carex muskingumensis</i>	Palm Sedge	8	-5	OBL	2-3'	3	N/A								plug
CXNORM	<i>Carex normalis</i>	Spreading Oval Sedge	5	-3	FACW	2-4'	3	N/A								plug
CXROSE	<i>Carex rosea</i>	Curly-styled Wood Sedge	4	5	UPL	3"-8"	0.5	N/A								plug
CXSART	<i>Carex sartwellii</i>	Running Marsh Sedge	6	-3	FACW	1-3'	3	N/A								plug
CXSOP	<i>Carex scoparia</i>	Lance-fruited Oval Sedge	7	-3	FACW	1-3'	2	N/A								plug
CXSPAR	<i>Carex sparganioides</i>	Bur-reed Sedge	3	0	FAC	2-3.5'	3	N/A								plug
CXSTIP	<i>Carex stipata</i>	Common Fox Sedge	3	-5	OBL	1.5-3'	3	N/A								plug
CXSTRI	<i>Carex stricta</i>	Common Tussock Sedge	5	-5	OBL	2.5-4'	3	N/A								plug
CXSWAN	<i>Carex swanii</i>	Swan's Sedge	8	3	FACU	1-2'	2	N/A								plug
CXTRIB	<i>Carex tribuloides</i>	Awl-fruited Oval Sedge	3	-5	OBL	1.5-3'	3	N/A								plug
CXTRIC	<i>Carex trichocarpa</i>	Hairy-fruited Lake Sedge	7	-5	OBL	2.5-4'	4	N/A								plug
CXVULP	<i>Carex vulpinoidea</i>	Brown Fox Sedge	2	-3	FACW	1.5-3.5'	3	N/A								plug
CINARU	<i>Cinna arundinacea</i>	Stout Wood Reed	5	-3	FACW	3-5'	3	N/A								plug
GLYSTR	<i>Glyceria striata</i>	Fowl Manna Grass	4	-5	OBL	2-3.5'	3	N/A								plug
JUNDUD	<i>Juncus dudleyi</i>	Dudley's Rush	4	-3	FACW	1-2.5'	2	N/A								plug
JUNEFF	<i>Juncus effusus</i>	Common Rush	7	-5	OBL	2-4'	3	N/A								plug
JUNTOR	<i>Juncus torreyi</i>	Torrey's Rush	4	-3	FACW	2-3'	2	N/A								plug
LEEORY	<i>Leersia oryzoides</i>	Rice Cut Grass	4	-5	OBL	2-4'	4	N/A								plug
PANVIR	<i>Panicum virgatum</i>	Switch Grass	5	0	FAC	3-6'	4	N/A								plug
SCHPUN	<i>Schoenoplectus pungens</i>	Chairmaker's Rush	5	-5	OBL	2-5'	5	N/A								plug
SCHTAB	<i>Schoenoplectus tabernaemontani</i>	Great Bulrush	5	-5	OBL	4-7'	6	N/A								plug
SCIATR	<i>Scirpus atrovirens</i>	Dark-green Bulrush	4	-5	OBL	2-6'	5	N/A								plug
SPAPEC	<i>Spartina pectinata</i>	Cord Grass	4	-3	FACW	3-9'	7	N/A								plug

Wildflowers														
CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM COLOR	BLOOM TIME					SIZE
						Min-Max	Typical		A	M	J	A	S	
ACOCAL	<i>Acorus calamus</i>	Sweet Flag	7	-5	OBL	1-3'	2	ellow/Green						plug
ANEVIR	<i>Anemone virginiana</i>	Tall Thimbleweed	5	3	FACU	1-3'	3	White						plug
ASCINC	<i>Asclepias incarnata</i>	Swamp Milkweed	4	-5	OBL	3-6'	4	Pink						plug
BLEHIR	<i>Blephilia hirsuta</i>	Hairy Wood Mint	8	3	FACU	1-3'	3	White						plug





# Plugs, Specialty Aquatic Species

Wildflowers																	
CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM COLOR	BLOOM TIME							SIZE	
						Min-Max	Typical		A	M	J	J	A	S	O		
ALISUB	<i>Alisma subcordatum</i>	Mud Plantain	4	-5	OBL	1-3'	3	White									bare root
BOLFLU	<i>Bolboschoenus fluviatilis</i>	River Bulrush	4	-5	OBL	3-6.5'	6	N/A									bare root
CXEMOR	<i>Carex emoryi</i>	Emory's Sedge	6	-5	OBL	1-3'	2	N/A									bare root
CXLACU	<i>Carex lacustris</i>	Common Lake Sedge	6	-5	OBL	2.5-4'	3	N/A									bare root
NYMODO	<i>Nymphaea odorata</i>	White Water Lily	7	-5	OBL	4"-12"	0.5	White									bare root
PERAMS	<i>Persicaria amphibia</i> var. <i>stipulacea</i>	Water Smartweed	4	-5	OBL	1-3'	2	Pink									bare root
PELVIR	<i>Peltandra virginica</i>	Green Arrow Arum	10	-5	OBL	8"-2'	2	Green									bare root
PERCOC	<i>Persicaria coccinea</i>	Scarlet Smartweed	4	-5	obl	1-3'	2	Pink									bare root
PONCOR	<i>Pontederia cordata</i>	Pickereelweed	10	-5	OBL	1-3'	2	Purple									bare root
POTNOD	<i>Potamogeton nodosus</i>	Long-leaf Pondweed	7	-5	OBL	3"-8"	0.5	White									bare root
SAGLAT	<i>Sagittaria latifolia</i>	Common Arrowhead	4	-5	OBL	1-3'	3	White									plug
SAGRIG	<i>Sagittaria rigida</i>	Stiff Arrowhead	10	-5	OBL	1-3'	3	White									plug
SPAEUR	<i>Sparganium eurycarpum</i>	Great Bur Reed	6	-5	OBL	2-6'	4	White									plug

# Plugs, Specialty Woodland Species

Wildflowers															
CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM COLOR	BLOOM TIME					SIZE	
						Min-Max	Typical		A	M	J	A	S		O
ASACAN	<i>Asarum canadense</i>	Wild Ginger	7	3	FACU	4-12"	0.5	Red							plug
ARIDRA	<i>Arisaema dracontium</i>	Green Dragon	7	-3	FACW	1-2.5'	2	Green							plug
ARITRI	<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	4	-3	FACW	1-2'	2	Green							plug
CARCON	<i>Cardamine concatenata</i>	Cutleaf Toothwort	5	3	FACU	4-10"	0.5	White							plug
CAMSCI	<i>Camassia scilloides</i>	Wild Hyacinth	6	0	FAC	1-2'	2	White							plug
CXJAME	<i>Carex jamesii</i>	James's Sedge	5	5	UPL	6"-12"	1	N/A							plug
CXPENS	<i>Carex pensylvanica</i>	Common Oak Sedge	5	5	UPL	6"-15"	0.7	N/A							plug
CXSPRE	<i>Carex spengelii</i>	Long-beaked Sedge	9	0	FAC	1.5-2.5'	2	N/A							plug
CLAVIR	<i>Claytonia virginica</i>	Spring Beauty	2	3	FACU	3"-8"	0.5	Pink							plug
DIAAME	<i>Diarrhena americana</i>	American Breakgrain	10	5	UPL	1'-3'	2.5	Green							plug
ERYALB	<i>Erythronium albidum</i>	White Trout Lily	5	3	FACU	3"-8"	0.5	White							plug
HEPACU	<i>Hepatica acutiloba</i>	Sharp-lobed Hepatica	6	5	UPL	4"-10"	0.7	Blue							plug
HYDVIR	<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	5	0	FAC	1-2.5'	2	Purple							plug
MAISTE	<i>Maianthemum stellatum</i>	Starry Solomon's Plume	5	0	FAC	1-2.5'	2	White							plug
ONOUSEN	<i>Onoclea sensibilis</i>	Sensitive Fern	8	-3	FACW	1-3'	2	Green							plug
OSMCLA	<i>Osmunda claytoniana</i>	Interrupted Fern	9	0	FAC	2-4'	4	Green							plug
PEDCAN	<i>Pedicularis canadensis</i>	Wood Betony	9	3	FACU	6"-12"	1	Yellow							plug
PODPPEL	<i>Podophyllum peltatum</i>	May Apple	4	3	FACU	12"-18"	1	White							plug
POLBIC	<i>Polygonatum biflorum</i> var. <i>commutatum</i>	Smooth Solomon's Seal	3	3	FACU	2-5'	4	Cream							plug
SANCAD	<i>Sanguinaria canadensis</i>	Bloodroot	6	3	FACU	6-12"	0.5	White							plug
TRIGRA	<i>Trillium grandiflorum</i>	Large-flowered Trillium	8	5	UPL	8"-18"	1	White							plug
TRIREC	<i>Trillium recurvatum</i>	Prairie Trillium	5	3	FACU	6"-16"	1	Red							plug
UVUGRA	<i>Uvularia grandiflora</i>	Large-flowered Bellwort	7	5	UPL	6"-20"	1	Yellow							plug

# Dry-Mesic Prairie Seed Mix (2,500 SF)

## MIX STATISTICS

Number of Native Species in Mix	33
Native FQI	35.5
Native Mean C Value	6.2
Native Mean W Value	3.5
Lbs/Acre of Native Seed	1.4
Seeds per Square Foot	128.5

## Grasses, Sedges, & Rushes

CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM COLOR	BLOOM TIME					SEEDS/OZ	OUNCES	LBS	% OF MIX		GERMINATION	TOP SOW
						Min-Max	Typical		A	M	J	J	A				S	O		
ANDGER	<i>Andropogon gerardii</i>	Big Bluestem	5	0	FAC	6-8'	7	N/A						10,000	2800	0.13	9.25%	6.23%	N/A	
BOUCUR	<i>Bouteloua curtipendula</i>	Side-oats Grama	8	5	UPL	1.5-2.5'	2	N/A						6,000	6,000	0.38	27.75%		N/A	
CBXICK	<i>Carex bicknellii</i>	Copper-shouldered Oval Sedge	10	3	FACU	1.5-2.5'	2	N/A						17,000	0.50	0.03	2.31%	2.65%	CM-60	
ELYCAN	<i>Elymus canadensis</i>	Canada Wild Rye	4	3	FACU	3-5'	5	N/A						5,200	1.00	0.06	4.62%	1.82%	N/A	
PANVIR	<i>Panicum virgatum</i>	Switch Grass	5	0	FAC	3-6'	4	N/A						14,000	1.00	0.08	4.62%	4.36%	N/A	
SCHSCO	<i>Schizachyrium scoparium</i>	Little Bluestem	5	3	FACU	2-3'	3	N/A						15,000	2.50	0.16	11.56%	11.67%	N/A	
Grass/Sedge Subtotals														Grass/Sedge Subtotals		0.813		37.73%		

## Wildflowers

SCIENTIFIC NAME		COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM	BLOOM TIME					SEEDS/OZ	OUNCES	LBS	% OF MIX		GERMINATION	TOP SOW
CODE						Min-Max	Typical	COLOR	A	M	J	J	A	S	O		by Weight	by Seed Count		
ALLCER	<i>Allium cernuum</i>	Nodding Onion	7	3	FACU	1-2'	1.5	Purple								7,600	0.125	0.01	0.58%	CM-60
AMOCAN	<i>Amorpha canescens</i>	Lead Plant	9	5	UPL	1-3.5'	3	Purple								16,000	0.25	0.02	1.16%	CM-10, H, I, J
ANECYL	<i>Anemone cylindrica</i>	Thimbleweed	6	5	UPL	1-3'	2	White								26,000	0.125	0.01	0.58%	CM-60
ASTTUB	<i>Asclepias tuberosa</i>	Butterfly Weed	7	5	UPL	1-2.5'	2	Orange								4,300	0.50	0.03	2.31%	CM-30
ASCVBR	<i>Asclepias verticillata</i>	Whorled Milkweed	1	3	FACU	6'-2'	2	White								11,000	0.125	0.01	0.58%	CM-30
KUHEUP	<i>Kuhnia eupatorioides</i>	False Boneset	6	5	UPL	1-3.5'	3	Cream								32,000	0.125	0.01	0.58%	CM-30
CHAFAS	<i>Chamaecrista fasciculata</i>	Partridge Pea	5	3	FACU	6'-2'	2	Yellow								2,700	1.00	0.06	4.62%	N/A
CORPAL	<i>Coreopsis palmata</i>	Prairie Coreopsis	6	5	UPL	1-2.5'	2	Yellow								10,000	0.125	0.01	0.58%	CM-10, H, I
DALCAN	<i>Dalea candida</i>	White Prairie Clover	9	5	UPL	1-2.5'	2	White								19,000	0.25	0.02	1.16%	CM-60, M
DALPUR	<i>Dalea purpurea</i>	Purple Prairie Clover	9	5	UPL	1-3'	2	Purple								18,000	0.50	0.03	1.48%	J, I
DRYARG	<i>Drymaris arguta</i>	Prairie Cinquefoil	9	3	FACU	1-3'	2	White								230,000	0.125	0.01	2.31%	J, I
ECHPAL	<i>Echinacea pallida</i>	Pale Purple Coneflower	8	5	UPL	2-3'	3	Purple								5,200	0.75	0.05	0.58%	CM-60, G
ERYULC	<i>Eryngium yuccifolium</i>	Rattlesnake Master	9	0	FAC	2-5'	4	White								7,500	0.25	0.02	1.21%	CM-30 or M
EUPCOR	<i>Euphorbia corollata</i>	Flowering Spurge	2	5	UPL	1-3'	3	White								8,000	0.125	0.01	0.58%	CM-30
HELOCC	<i>Helianthus occidentalis</i>	Western Sunflower	10	3	FACU	2-4'	3	Yellow								14,000	0.125	0.01	0.58%	CM-30
HELHEL	<i>Helopsis helianthoides</i>	Early Sunflower	4	3	FACU	3-5'	5	Yellow								6,300	0.50	0.03	0.58%	CM-30
LESCAP	<i>Lespedeza capitata</i>	Round-headed Bush Clover	4	3	FACU	2-5'	4	Green								8,000	0.25	0.02	1.16%	CM-30
LIASPS	<i>Liatris aspera</i>	Button Blazing Star	6	5	UPL	2-5'	3	Purple								16,000	0.25	0.02	0.62%	CM-10, H, I, J
MONFIS	<i>Monarda fistulosa</i>	Wild Bergamot	4	3	FACU	2.5-4'	4	Purple								70,000	0.125	0.01	1.25%	CM-60
PARINT	<i>Parthenium integrifolium</i>	Wild Quinine	8	5	UPL	2-3.5'	3	White								7,000	0.50	0.03	2.72%	N/A
PENDIG	<i>Penstemon digitalis</i>	Foxglove Beardtongue	4	0	FAC	2-3'	3	White								130,000	0.125	0.01	2.31%	CM-60
RATPIN	<i>Ratibida pinnata</i>	Yellow Coneflower	4	5	UPL	2-4'	4	Yellow								30,000	0.50	0.03	0.58%	CM-30, G
RUDHIR	<i>Rudbeckia hirta</i>	Black-eyed Susan	1	3	FACU	2-3'	2	Yellow								92,000	0.50	0.03	2.31%	CM-30
SILLAC	<i>Silphium laciniatum</i>	Compass Plant	5	5	UPL	6-12'	8	Yellow								660	0.50	0.03	0.10%	CM-30
SOLRIG	<i>Solidago rigida</i>	Stiff Goldenrod	4	3	FACU	2-5'	4	Yellow								41,000	0.50	0.03	2.31%	CM-60
SYMLAE	<i>Symphoricarum laeve</i>	Smooth Blue Aster	9	3	FACU	1.5-3'	3	Blue								55,000	0.125	0.01	0.58%	N/A
ZIZAPT	<i>Zizia aptera</i>	Heart-leaf Golden Alexanders	10	3	FACU	1-2.5'	2	Yellow								12,000	0.25	0.02	1.16%	CM-60 or M, G
Wildflower Subtotals															1,352	39.88%	62.27%			
Mix TOTALS															100.00%	100.00%				

# Mesic - Dry Shade Seed Mix (2,500 SF)

## MIX STATISTICS

Number of Native Species in Mix	49
Native FQI	37.4
Native Mean C Value	5.3
Native Mean W Value	2.3
Lbs/Acre of Native Seed	0.9
Seeds per Square Foot	149.2

## Grasses, Sedges, & Rushes

CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT Min-Max Typical	BLOOM COLOR	BLOOM TIME A M J J A S O	SEEDS/OZ	OUNCES	LBS	% OF MIX by Weight	% OF MIX by Seed Count	GERMINATION	TOP SOW
ANDGR	<i>Andropogon gerardii</i>	Big Bluestem	5	0	FAC	6-8'	7	N/A	10,000	0.25	0.02	1.65%	0.67%	N/A	N/A
BROKAL	<i>Bromus kalmii</i>	Prairie Brome	10	0	FAC	1-3'	2	N/A	8,000	0.125	0.01	0.83%	0.27%	N/A	N/A
CXBLAN	<i>Carex blanda</i>	Common Wood Sedge	1	0	FAC	1-2'	2	N/A	12,500	0.125	0.01	0.83%	0.42%	CM-60	CM-60
CXBREV	<i>Carex brevior</i>	Plains Oval Sedge	4	0	FAC	1-3'	2	N/A	29,000	0.50	0.03	3.31%	3.89%	CM-60	CM-60
CXCEPH	<i>Carex cephalophora</i>	Short-headed Bracted Sedge	3	3	FACU	1-2'	1.5	N/A	32,000	0.125	0.01	0.83%	1.07%	CM-60	CM-60
CXCRIS	<i>Carex cristatella</i>	Crested Oval Sedge	4	-3	FACW	2-4'	3	N/A	58,000	0.125	0.01	0.83%	1.94%	CM-60	CM-60
CXGRAL	<i>Carex gracillima</i>	Purple-sheathed Graceful Sedge	10	3	FACU	2-3.5'	3	N/A	102,000	0.125	0.01	0.83%	3.42%	CM-60	CM-60
CXMOLE	<i>Carex molesta</i>	Field Oval Sedge	2	0	FAC	1-2.5'	2	N/A	25,000	0.50	0.03	3.31%	3.35%	CM-60	CM-60
CXNORM	<i>Carex normalis</i>	Spreading Oval Sedge	5	-3	FACW	2-4'	3	N/A	20,000	0.125	0.01	0.83%	0.84%	CM-60	CM-60
CXTENE	<i>Carex tenera</i>	Narrow-leaved Oval Sedge	8	-3	FACW	1-3'	3	N/A	20,000	0.25	0.02	1.65%	1.34%	CM-60	CM-60
ELYCAN	<i>Elymus canadensis</i>	Canada Wild Rye	4	3	FACU	3-5'	5	N/A	5,200	0.50	0.03	3.31%	0.70%	N/A	N/A
ELYHYS	<i>Elymus hystrix</i>	Bottlebrush Grass	5	3	FACU	2.5-5'	3	N/A	7,600	0.75	0.05	4.96%	1.53%	N/A	N/A
ELYVIR	<i>Elymus virginicus</i>	Virginia Wild Rye	4	-3	FACW	2.5-4'	4	N/A	4,200	0.50	0.03	3.31%	0.56%	N/A	N/A
PANVIR	<i>Panicum virgatum</i>	Switch Grass	5	0	FAC	3-6'	4	N/A	14,000	0.50	0.03	3.31%	1.88%	N/A	N/A
SCHSCH	<i>Schizachyrium scoparium</i>	Little Bluestem	5	3	FACU	2-3'	3	N/A	15,000	2.00	0.13	13.22%	8.04%	N/A	N/A
Grass/Sedge Subtotals										0.406		42.98%	29.92%		

## Wildflowers

CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT Min-Max Typical	BLOOM COLOR	BLOOM TIME A M J J A S O	SEEDS/OZ	OUNCES	LBS	% OF MIX by Weight	% OF MIX by Seed Count	GERMINATION	TOP SOW
AGASCR	<i>Agastache scrophulariifolia</i>	Purple Giant Hyssop	5	5	UPL	5-7'	6	Purple	93,000	0.125	0.01	0.83%	3.12%	CM-60	CM-60
ALLCER	<i>Allium cernuum</i>	Nodding Onion	7	3	FACU	1-2'	1.5	Purple	7,600	0.50	0.03	3.31%	1.02%	CM-60	CM-60
ANECYL	<i>Anemone cylindrica</i>	Thimbleweed	6	5	UPL	1-3'	2	White	26,000	0.125	0.01	0.83%	0.87%	CM-60	CM-60
AQUCAN	<i>Aquilegia canadensis</i>	Wild Columbine	6	3	FACU	2-4'	2	Red/Yellow	38,000	0.125	0.01	0.83%	1.27%	CM-60	CM-60
ASCTUB	<i>Asclepias tuberosa</i>	Butterfly Weed	7	5	UPL	1-2.5'	2	Orange	4,300	0.25	0.02	1.65%	0.29%	CM-30	CM-30
ASTCAN	<i>Astragalus canadensis</i>	Canada Milk Vetch	10	0	FAC	2-4'	3	Cream	17,000	0.125	0.01	0.83%	0.57%	CM-10, H, I	CM-10, H, I
BAPALB	<i>Baptisia alba</i>	White Wild Indigo	3	3	FACU	3-6'	4	White	1,700	0.25	0.02	1.65%	0.11%	CM-10, H, I	CM-10, H, I
CHAFAS	<i>Chamaecrista fasciculata</i>	Partridge Pea	5	3	FACU	6'-2'	2	Yellow	2,700	1.00	0.06	6.61%	0.72%	CM-10, H, I	CM-10, H, I
CORPAL	<i>Coreopsis palmata</i>	Prairie Coreopsis	6	5	UPL	1-2.5'	2	Yellow	10,000	0.125	0.01	0.83%	0.34%	CM-60, M	CM-60, M
DESCAA	<i>Desmodium canadense</i>	Showy Tick Trefail	4	3	FACU	3-6'	4	Purple	5,500	0.25	0.02	1.65%	0.37%	N/A	N/A
ECHPUR	<i>Echinacea purpurea</i>	Purple Coneflower	3	5	UPL	2-5'	4	Purple	6,600	0.25	0.02	1.65%	0.44%	CM-60	CM-60
ERYRUC	<i>Eryngium yuccifolium</i>	Rattlesnake Master	9	0	FAC	2-5'	4	White	7,500	0.50	0.03	3.31%	1.01%	CM-60	CM-60
EUPRUG	<i>Eupatorium rugosum</i>	White Snakeroot	4	3	FACU	1.5-4'	2	White	150,000	0.125	0.01	0.83%	5.03%	CM-60	CM-60
EUPCOR	<i>Euphorbia corollata</i>	Flowering Spurge	2	5	UPL	1-3'	3	White	8,000	0.25	0.02	1.65%	0.54%	CM-30	CM-30
HELHEL	<i>Helopsis helianthoides</i>	Early Sunflower	5	3	FACU	3-5'	5	Yellow	6,300	0.25	0.05	4.96%	1.27%	CM-30	CM-30
LESCAP	<i>Lespedeza capitata</i>	Round-headed Bush Clover	4	3	FACU	2-5'	4	Green	8,000	0.125	0.01	0.83%	0.27%	CM-10, H, I, J	CM-10, H, I, J
LIAASP	<i>Liatis aspera</i>	Button Blazing Star	6	5	UPL	2-5'	3	Purple	16,000	0.125	0.01	0.83%	0.54%	CM-60	CM-60
MONFIS	<i>Monarda fistulosa</i>	Wild Bergamot	4	3	FACU	2-5'	4	Purple	70,000	0.125	0.01	0.83%	2.35%	N/A	N/A
MONPUN	<i>Monarda punctata</i>	Spotted Bee Balm	5	5	UPL	1-3'	2	Purple	90,000	0.125	0.01	0.83%	3.02%	CM-60	CM-60
PARINT	<i>Parthenium integrifolium</i>	Wild Quinine	8	5	UPL	2-3.5'	3	White	7,000	0.25	0.02	1.65%	0.47%	CM-60	CM-60
PENDIG	<i>Penstemon digitalis</i>	Foxglove Beardtongue	4	0	FAC	2-3'	3	White	130,000	0.125	0.01	0.83%	4.36%	CM-30, G	CM-30, G
PENPAL	<i>Penstemon pallidus</i>	Pale Beardtongue	6	5	UPL	1-2.5'	1.5	Cream	180,000	0.125	0.01	0.83%	6.03%	CM-30, G	CM-30, G
RATPIN	<i>Ratibida pinnata</i>	Yellow Coneflower	4	5	UPL	2-4'	4	Yellow	30,000	0.25	0.02	1.65%	2.01%	CM-30	CM-30
RUDHIR	<i>Rudbeckia hirta</i>	Black-eyed Susan	1	3	FACU	2-3'	2	Yellow	92,000	0.50	0.03	3.31%	12.33%	CM-30	CM-30
RUDSUB	<i>Rudbeckia subtomentosa</i>	Sweet Black-eyed Susan	9	3	FACU	3-6'	5	Yellow	43,000	0.25	0.02	1.65%	2.88%	CM-30	CM-30
SILTER	<i>Silphium terebinthinaceum</i>	Prairie Dock	5	0	FAC	4-10'	9	Yellow	1,000	0.125	0.01	0.83%	0.03%	CM-60	CM-60
SOLSPE	<i>Solidago speciosa</i>	Showy Goldenrod	7	5	UPL	2-5'	5	Yellow	95,000	0.125	0.01	0.83%	3.18%	CM-60	CM-60
SOLLUM	<i>Solidago ulmifolia</i>	Elm-leaved Goldenrod	5	5	UPL	1-3'	3	Yellow	130,000	0.125	0.01	0.83%	4.36%	CM-60	CM-60
SYMDRU	<i>Symphoricaricium drummondii</i>	Drummond's Aster	2	5	UPL	1.5-4'	3	White	80,000	0.125	0.01	0.83%	2.68%	N/A	N/A
SYMLAE	<i>Symphoricaricium laeve</i>	Smooth Blue Aster	9	3	FACU	1.5-3'	3	Purple	55,000	0.125	0.01	0.83%	1.84%	CM-60	CM-60
SYMNOV	<i>Symphoricaricium novae-angliae</i>	New England Aster	4	-3	FACW	3-5'	4	Purple	66,000	0.125	0.01	0.83%	2.21%	CM-60	CM-60
SYMSHO	<i>Symphoricaricium shortii</i>	Short's Aster	8	5	UPL	2-3.5'	3	Blue	60,000	0.125	0.01	0.83%	2.01%	CM-30	CM-30
TROAHI	<i>Tradescantia hiemalis</i>	Ohio Spiderwort	2	3	FACU	2-4'	3	Blue	8,000	0.50	0.03	3.31%	1.07%	CM-60 or M, G	CM-60 or M, G
ZIZAUR	<i>Zizia aurea</i>	Golden Alexanders	7	0	FAC	1-2.5'	2	Yellow	11,000	0.50	0.03	3.31%	1.47%	CM-60 or M, G	CM-60 or M, G
Wildflower Subtotals										0.539		57.02%	70.08%		
Mix TOTALS										0.945		100.00%	100.00%		



# Wet-Mesic Prairie Seed Mix (2,500 SF)

## MIX STATISTICS

Number of Native Species in Mix	36
Native FQI	28.2
Native Mean C Value	4.7
Native Mean W Value	-1.0
Lbs/Acre of Native Seed	0.9
Seeds per Square Foot	184.2

## Grasses, Sedges, & Rushes

CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT	BLOOM	BLOOM TIME	SEEDS/OZ	OUNCES	LBS	% OF MIX by Weight	% OF MIX by Seed Count	GERMINATION	TOP SOW
						Min-Max Typical	COLOR	A M J J J A S O							
CXBRV	<i>Carex brevior</i>	Plains Oval Sedge	4	0	FAC	1-3'	N/A		29,000	0.125	0.01	0.91%	0.79%	CM-60	
CXCRS	<i>Carex cristatella</i>	Crested Oval Sedge	4	-3	FACW	2-4'	N/A		58,000	0.125	0.01	0.91%	1.57%	CM-60	
CXMOLE	<i>Carex molesta</i>	Field Oval Sedge	2	0	FAC	1-2.5'	N/A		25,000	0.25	0.02	1.82%	1.36%	CM-60	
CXSTIP	<i>Carex stipata</i>	Common Fox Sedge	3	-5	OBL	1.5-3'	N/A		34,000	0.125	0.01	0.91%	0.92%	CM-60	
CXVULP	<i>Carex vulpinoidea</i>	Brown Fox Sedge	2	-3	FACW	1.5-3.5'	N/A		100,000	0.25	0.02	1.82%	5.43%	CM-60	
ELVYR	<i>Elymus virginicus</i>	Virginia Wild Rye	4	-3	FACW	2.5-4'	N/A		4,200	2.50	0.16	18.18%	2.28%	N/A	
PANVIR	<i>Panicum virgatum</i>	Switch Grass	5	0	FAC	3-6'	N/A		14,000	1.00	0.06	7.27%	3.04%	N/A	
SCIATR	<i>Scirpus atrovirens</i>	Dark-green Bulrush	4	-5	OBL	2-6'	N/A		460,000	0.125	0.01	0.91%	12.49%	CM-60 or M	
SPAPEC	<i>Spartina pectinata</i>	Cord Grass	4	-3	FACW	3-9'	N/A		6,600	1.50	0.09	10.91%	2.15%	N/A	
									Grass/Sedge Subtotals		0.375	43.64%	30.03%		

## Wildflowers

CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT	BLOOM	BLOOM TIME	SEEDS/OZ	OUNCES	LBS	% OF MIX by Weight	% OF MIX by Seed Count	GERMINATION	TOP SOW
						Min-Max Typical	COLOR	A M J J J A S O							
ALLCER	<i>Allium cernuum</i>	Nodding Onion	7	3	FACU	1-2'	Purple		7,600	0.25	0.02	1.82%	0.41%	CM-60	
ASCINC	<i>Asclepias incarnata</i>	Swamp Milkweed	4	-5	OBL	3-6'	Pink		4,800	0.50	0.03	3.64%	0.52%	CM-30	
BIDCER	<i>Bidens cernua</i>	Nodding Bur Marigold	5	-5	OBL	1-3'	Yellow		21,000	0.125	0.01	0.91%	0.57%	CM-60	
CHAFAS	<i>Chamaecrista fasciculata</i>	Partridge Pea	5	3	FACU	6'-2'	Yellow		2,700	1.00	0.06	7.27%	0.59%	CM-10, H, I	
CORTRI	<i>Coreopsis tripteris</i>	Tall Coreopsis	5	0	FAC	3-8'	Yellow		14,000	0.25	0.02	1.82%	0.76%	CM-60	
DESCAA	<i>Desmodium canadense</i>	Showy Tick Trefoil	4	3	FACU	3-6'	Purple		5,500	0.25	0.02	1.82%	0.30%	J, I	
DOEUMB	<i>Doellingeria umbellata</i>	Flat-topped Aster	9	-3	FACW	2-5'	Cream		67,000	0.125	0.01	0.91%	1.82%	CM-60	
ERYUC	<i>Eryngium yuccifolium</i>	Rattlesnake Master	9	0	FACW	2-5'	White		7,500	1.00	0.06	7.27%	1.63%	CM-60	
EUPPER	<i>Eupatorium perfoliatum</i>	Boneset	4	-5	OBL	3-4'	White		160,000	0.125	0.01	0.91%	4.34%	CM-30	
EUTGRA	<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	4	-3	FACW	2-4'	Yellow		350,000	0.250	0.02	1.82%	19.01%	CM-60	
HELAUT	<i>Helenium autumnale</i>	Sneezeweed	5	-3	FACW	2-5'	Yellow		130,000	0.125	0.01	0.91%	3.53%	N/A	
LIAPYC	<i>Liatris pycnostachya</i>	Prairie Blazing Star	8	0	FAC	2-4'	Purple		11,000	0.25	0.02	1.82%	0.60%	CM-60	
MONFIS	<i>Monarda fistulosa</i>	Wild Bergamot	4	3	FACU	2.5-4'	Purple		70,000	0.125	0.02	1.82%	3.80%	N/A	
PENDIG	<i>Penstemon digitalis</i>	Foxglove Beardtongue	4	0	FAC	2-3'	White		130,000	0.125	0.01	0.91%	3.53%	CM-30, G	
PHYVIR	<i>Physostegia virginiana</i>	Obedient Plant	6	-3	FACW	3-4'	Pink		11,000	0.250	0.02	1.82%	0.60%	CM-60	
PHYCVR	<i>Pycnanthemum virginianum</i>	Black-eyed Susan	5	-3	FACW	1-4'	White		220,000	0.125	0.01	0.91%	5.97%	N/A	
RUDHIR	<i>Rudbeckia hirta</i>	Sweet Black-eyed Susan	1	3	FACU	2-3'	Yellow		92,000	0.50	0.03	3.64%	9.99%	CM-30	
RUDSUB	<i>Rudbeckia subtomentosa</i>	Brown-eyed Susan	3	3	FACU	3-6'	Yellow		43,000	0.125	0.01	0.91%	1.17%	CM-30	
RUDTRI	<i>Rudbeckia triloba</i>	Prairie Dock	5	0	FAC	2-6'	Yellow		34,000	0.125	0.01	0.91%	0.92%	CM-30	
SILTER	<i>Silphium terebinthinaceum</i>	Stiff Goldenrod	4	3	FACU	4-10'	Yellow		1,000	0.50	0.03	3.64%	1.11%	CM-60	
SOLRIG	<i>Solidago rigida</i>	New England Aster	4	-3	FACW	3-5'	Purple		41,000	0.13	0.01	0.91%	1.11%	CM-60	
SYMNNOV	<i>Symphoricarpon noivae-angliae</i>	Purple Meadow Rue	5	-3	FACW	3-7'	Cream		66,000	0.25	0.02	1.82%	3.58%	CM-60	
THADAS	<i>Thalictrum dasycarpum</i>	Ohio Spiderwort	2	3	FACU	2-4'	Blue		11,000	0.125	0.01	0.91%	0.30%	CM-60, G	
TRAOHL	<i>Tradescantia ohioensis</i>	Blue Vervain	4	-3	FACW	2-6'	Purple		8,000	0.25	0.02	1.82%	0.43%	CM-120 or M, G	
VERHAS	<i>Verbena hastata</i>	Common Ironweed	5	-3	FACW	3-6'	Purple		93,000	0.125	0.01	0.91%	2.52%	CM-30	
VERFAS	<i>Vernonia fasciculata</i>	Golden Alexanders	7	0	FAC	1-2.5'	Yellow		24,000	0.125	0.01	0.91%	0.65%	CM-60	
ZIZAUR	<i>Zizia aurea</i>								11,000	0.50	0.03	3.64%	1.19%	CM-60 or M, G	
									Wildflower Subtotals		0.484	56.36%	69.97%		
									Mix TOTALS		0.859	100.00%	100.00%		

## Wet-Mesic Shade Seed Mix (2,500 SF)

MIX STATISTICS

Number of Native Species in Mix	42
Native FQI	31.0
Native Mean C Value	4.8
Native Mean W Value	-0.7
Lbs/Acre of Native Seed	0.7
Seeds per Square Foot	146.9

## Grasses, Sedges, &amp; Rushes

CODE	SCIENTIFIC NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM TIME							SEEDS/OZ	OUNCES	LBS	% OF MIX		GERMINATION	TOP SOW
					Min-Max	Typical	BLOOM										by Weight	by Seed Count		
							A	M	J	J	A	S	O							
BROPUB	<i>Bromus pubescens</i>	5	3	FACU	2.5-4'	4	N/A							7.600	0.50	0.03	4.4%	1.03%	CM-30	
CXBLAN	<i>Carex blanda</i>	1	0	FAC	1-2'	2	N/A							12.500	0.125	0.01	1.1%	0.43%	CM-60	
CXGEPH	<i>Carex cephalophora</i>	3	3	FACU	1-2'	1.5	N/A							32.000	0.125	0.01	1.1%	1.09%	CM-60	
CXDAVI	<i>Carex davisi</i>	7	0	FAC	1.5-3'	2	N/A							9.000	0.25	0.02	2.2%	0.61%	CM-60	
CXFRANK	<i>Carex frankii</i>	8	-5	OBL	1-2.5'	2	N/A							17.000	0.125	0.01	1.1%	0.58%	CM-60	
CXGRIS	<i>Carex grisea</i>	2	0	FAC	1-2'	2	N/A							9.000	0.25	0.02	2.2%	0.61%	CM-60	
CXLUPN	<i>Carex lupulina</i>	7	-5	OBL	1.5-3.5	3	N/A							3.300	0.150	0.03	4.4%	0.45%	CM-60	
CXMOL	<i>Carex molesta</i>	2	0	FAC	1-2.5'	2	N/A							25.000	0.25	0.02	2.2%	1.70%	CM-60	
CXNORM	<i>Carex normalis</i>	5	-3	FACW	2-4'	3	N/A							25.000	0.125	0.01	1.1%	0.85%	CM-60	
CXSPRE	<i>Carex spregellii</i>	9	0	FAC	1.5-2.5'	2	N/A							10.000	0.25	0.02	2.2%	0.68%	CM-60	
CXSTIP	<i>Carex stipata</i>	3	-5	OBL	1.5-3'	3	N/A							34.000	0.25	0.02	2.2%	2.31%	CM-60	
CXTENE	<i>Carex tenera</i>	8	-3	FACW	1-3'	3	N/A							20.000	0.13	0.01	1.1%	0.88%	CM-60	
CINARU	<i>Cinna arundinacea</i>	5	-3	FACW	3-5'	3	N/A							81.000	0.25	0.02	2.2%	5.51%	CM-60	
ELHYLS	<i>Elymus hystrix</i>	5	3	FACU	2.5-5'	3	N/A							7.600	1.00	0.06	8.8%	2.07%	N/A	
ELVILV	<i>Elymus villosus</i>	5	3	FACU	2-3.5'	3	N/A							5.500	0.50	0.03	4.4%	0.75%	N/A	
ELVIR	<i>Elymus virginicus</i>	4	-3	FACW	2.5-4'	4	N/A							4.200	1.00	0.06	8.8%	1.14%	N/A	
GLVSTR	<i>Glyceria striata</i>	4	-5	OBL	2-3.5'	3	N/A							90.000	0.50	0.03	4.4%	12.25%	N/A	
MUHIMEX	<i>Muhlenbergia mexicana</i>	5	-3	FACW	2-3'	2	N/A							175.000	0.125	0.01	1.1%	5.56%	N/A	
														Grass/Sedge Subtotals	0.391		55.56%	38.72%		

Wildflowers

CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM TIME							SEEDS/OZ	OUNCES	LBS	% OF MIX		GERMINATION	TOP SOW
						Min-Max	Typical	A	M	J	J	A	S	O				by Weight	by Seed Count		
	<i>Allium cernuum</i>	Nodding Onion	7	3	FACU	1-2'	1.5							7,600	0.25	0.02	2.22%	0.52%			
	<i>Aquilegia canadensis</i>	Wild Columbine	6	3	FACU	2-4'	2							38,000	0.125	0.01	1.11%	1.29%	CM-60		
	<i>Bidens frondosa</i>	Common Beggar's Ticks	1	-3	FACW	1-3'	3							5,000	0.625	0.03	4.44%	0.68%	CM-60		
	<i>Boehmeria cylindrica</i>	False Nettle	2	-5	OBL	2-3'	3							208,000	0.125	0.01	1.11%	7.08%	N/A		
	<i>Campanulastrum americanum</i>	American Bellflower	3	0	FAC	2-6'	5							170,000	0.125	0.01	1.11%	5.79%	CM-30		
	<i>Cryptotaenia canadensis</i>	Honewort	2	0	FAC	1-3'	2							7,000	0.250	0.02	2.22%	0.48%	CM-60		
	<i>Eupatorium rugosum</i>	White Snakeroot	4	3	FACU	1.5-4'	2							150,000	0.125	0.01	1.11%	5.11%	CM-60		
	<i>Eutrochium purpureum</i>	Purple Joe Pye Weed	7	0	FAC	3-7'	6							42,000	0.125	0.01	1.11%	1.43%	CM-30, G		
	<i>Heliosis helianthoides</i>	Early Sunflower	5	3	FACU	3-5'	5							6,300	0.75	0.05	6.67%	1.29%	CM-30		
	<i>Penstemon digitalis</i>	Foxglove Beardtongue	4	0	FAC	2-3'	3							130,000	0.125	0.01	1.11%	4.43%	CM-60 ?		
	<i>Persicaria punctata</i>	Dotted Smartweed	6	-5	OBL	2-3.5'	3							7,800	0.25	0.02	2.22%	0.53%	CM-60 ?		
	<i>Persicaria virginiana</i>	Woodland Knotweed	2	0	FAC	1-3'	2							3,500	0.25	0.02	2.22%	0.24%	CM-60 ?		
	<i>Rudbeckia laciniata</i>	Wild Golden Glow	5	-3	FACW	3-8'	7							14,000	0.125	0.01	1.11%	0.48%	CM-30		
	<i>Rudbeckia subtomentosa</i>	Sweet Black-eyed Susan	9	3	FACU	3-6'	5							43,000	0.325	0.01	1.11%	1.46%	CM-30		
	<i>Rudbeckia triloba</i>	Brown-eyed Susan	3	3	FACU	2-6'	5							34,000	0.125	0.01	1.11%	1.16%	CM-30		
	<i>Scrophularia marilandica</i>	Late Pigwort	4	3	FACU	4-9'	6							170,000	0.125	0.01	1.11%	5.79%	CM-60?		
	<i>Silphium perfoliatum</i>	Cup Plant	5	-3	FACW	6-10'	8							1,400	0.125	0.01	1.11%	0.05%	CM-60		
	<i>Symphytrichum lanceolatum</i>	Panicked Aster	3	0	FAC	1-3.5'	3							156,000	0.125	0.01	1.11%	5.31%	N/A		
	<i>Symphytichum lateriflorum</i>	Calico Aster	4	-3	FACW	1-3'	2							250,000	0.125	0.01	1.11%	8.51%	N/A		
	<i>Symphytichum puniceum</i>	Swamp Aster	7	-5	OBL	2-6'	5							80,000	0.125	0.01	1.11%	2.72%	CM-60		
	<i>Symphytichum uraphyllum</i>	Arrow-leaved Aster	5	0	FACU+	2-3.5'	3							135,000	0.125	0.01	1.11%	4.60%	CM-60		
	<i>Thalictrum dioicum</i>	Early Meadow Rue	7	3	FACU	1-2.5'	2							7,300	0.125	0.01	1.11%	0.25%	CM-60		
	<i>Verbesina alternifolia</i>	Wingstem	5	-3	FACW	3-8'	7							9,000	0.250	0.02	2.22%	0.61%	CM-30		
	<i>Zizia aurea</i>	Golden Alexanders	7	0	FAC	1-2.5'	2							11,000	0.50	0.03	4.44%	1.50%	CM-60 or M, G		
Wildflower Subtotals																0.313	44.44%	61.28%			
Mix TOTALS																0.703	100.00%	100.00%			

Wetland Seed Mix (2,500 SF)

MIX STATISTICS	
Number of Native Species in Mix	34
Native FQ	27.4
Native Mean C Value	4.7
Native Mean W Value	-4.4
Lbs/Acre of Native Seed	0.6
Seeds per Square Foot	605.1

Grasses, Sedges, & Rushes															TOP SOW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
CODE	SCIENTIFIC NAME	COMMON NAME	C-VALUE	W-VALUE	WETNESS	HEIGHT		BLOOM TIME							SEEDS/OZ	OUNCES	LBS	% OF MIX by Weight	by Seed Count	GERMINATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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CALCAN	<i>Calamagrostis canadensis</i>	Blue Joint Grass	3	-5	OBL	2-5'	4	N/A							280,000	0.125	0.01	1.33%	2.31%	N/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CXCOMO	<i>Carex comosa</i>	Bristly Sedge	5	-5	OBL	2-3.5'	2	N/A							30,000	0.025	0.02	1.33%	0.50%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CXGRIS	<i>Carex cristatella</i>	Crested Oval Sedge	4	-3	FACW	2-4'	3	N/A							58,000	0.125	0.01	1.33%	0.48%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CXHYST	<i>Carex hystericina</i>	Porcupine Sedge	5	-5	OBL	1-2.5'	2	N/A							30,000	0.025	0.02	2.67%	0.50%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CXSTIP	<i>Carex stipitata</i>	Common Fox Sedge	3	-5	OBL	1.5-3'	3	N/A							34,000	0.25	0.02	2.67%	0.56%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CXSTRI	<i>Carex stricta</i>	Common Tussock Sedge	5	-5	OBL	2.5-4'	3	N/A							53,000	0.125	0.01	1.33%	0.44%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CVULP	<i>Carex vulpinoidea</i>	Brown Fox Sedge	2	-3	FACW	1.5-3.5'	3	N/A							100,000	0.75	0.05	8.00%	4.96%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
ELEPAL	<i>Eleocharis palustris</i>	Great Spike Rush	2	-5	OBL	1-3.5'	2	N/A							51,000	0.125	0.01	1.33%	0.42%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
JUNUDU	<i>Juncus dudleyi</i>	Dudley's Rush	4	-3	FACW	1-2.5'	2	N/A							3,200,000	0.125	0.01	1.33%	26.44%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
JUNEFF	<i>Juncus effusus</i>	Common Rush	7	-5	OBL	2-4'	3	N/A							1,000,000	0.125	0.01	1.33%	8.26%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
LEEORY	<i>Leersia oryzoides</i>	Rice Cut Grass	4	-5	OBL	2-4'	4	N/A							34,000	0.50	0.03	5.33%	1.12%	N/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
SCHPUP	<i>Schoenoplectus pungens</i> var. <i>pungens</i>	Chairmaker's Rush	5	-5	OBL	2-5'	5	N/A							12,000	0.125	0.01	1.33%	0.10%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
SCHTAB	<i>Schoenoplectus tabernaemontani</i>	Great Bulrush	5	-5	OBL	4-7'	6	N/A							31,000	0.125	0.01	1.33%	0.26%	CM-60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
SCATR	<i>Scirpus atrovirens</i>	Dark-green Bulrush	4	-5	OBL	2-6'	5	N/A							460,000	0.125	0.01	1.33%	3.80%	CM-60 or M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
SPAPEC	<i>Spartina pectinata</i>	Cord Grass	4	-3	FACW	3-9'	7	N/A							6,600	1.25	0.08	13.33%	0.55%	N/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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## APPENDIX

### LIST OF AGGRESSIVE WEED/INVASIVE SPECIES TO BE CONTROLLED

*Acer negundo* BOXELDER<sup>3</sup>

*Acer platanoides* NORWAY MAPLE

*Achillea* spp. YARROW<sup>3</sup>

*Aegopodium podagraria* GOUTWEED

*Agrostis gigantea* REDTOP

*Agrostis stolonifera* CREEPING BENTGRASS<sup>3</sup>

*Ailanthus altissima* TREE OF HEAVEN

*Alliaria petiolata* GARLIC MUSTARD

*Alnus glutinosa* EUROPEAN BLACK ALDER

*Ambrosia artemisiifolia* COMMON RAGWEED<sup>1,3</sup>

*Ambrosia trifida* GIANT RAGWEED<sup>1,3</sup>

*Anthriscus sylvestris* WILD CHERVIL

*Arctium minus* COMMON BURDOCK

*Berberis thunbergii* JAPANESE BARBERRY

*Brassica nigra* BLACK MUSTARD<sup>2</sup>

*Bromus inermis* SMOOTH BROME

*Bromus tectorum* DOWNY BROME

*Butomus umbellatus* FLOWERING RUSH

*Cannabis sativa* MARIJUANA<sup>1</sup>

*Carduus nutans* MUSK THISTLE<sup>1</sup>

*Celastrus orbiculatus* ASIAN BITTERSWEET<sup>1</sup>

*Centaurea maculosa* SPOTTED KNAPWEED

*Chenopodium album* LAMB'S QUARTERS<sup>2</sup>  
*Cirsium arvense* CANADA THISTLE<sup>1</sup>  
*Cirsium vulgare* BULL THISTLE  
*Conium maculatum* POISON HEMLOCK<sup>1</sup>  
*Cornus racemosa* GRAY DOGWOOD<sup>3</sup>  
*Cynanchum louiseae* BLACK SWALLOW-WORT  
*Cynanchum rossicum* PALE SWALLOW-WORT  
*Cyperus esculentus* YELLOW NUTSEDGE<sup>3</sup>  
*Dactylis glomerata* ORCHARDGRASS  
*Daucus carota* QUEEN ANNE'S LACE<sup>2</sup>  
*Dioscorea oppositifolia* CHINESE YAM  
*Dipsacus* spp. TEASEL<sup>1</sup>  
*Echinochloa crus-galli* BARNYARD GRASS  
*Egeria densa* BRAZILIAN WATERWEED  
*Eichhornia crassipes* WATER HYACINTH  
*Elaeagnus angustifolia* RUSSIAN OLIVE<sup>1</sup>  
*Elaeagnus pungens* THORNY OLIVE<sup>1</sup>  
*Elaeagnus umbellata* AUTUMN OLIVE<sup>1</sup>  
*Elymus repens* QUACKGRASS  
*Erigeron canadensis* MARE'S TAIL<sup>3</sup>  
*Erigeron annuus* ANNUAL FLEABANE<sup>3</sup>  
*Erigeron strigosus* DAISY FLEABANE<sup>3</sup>  
*Euonymus alatus* BURNING BUSH  
*Euonymus fortunei* WINTERCREEPER

*Euphorbia esula* LEAFY SPURGE

*Fallopia japonica* JAPANESE KNOTWEED'

*Fallopia sachalinensis* GIANT KNOTWEED'

*Fallopia × bohemica* BOHEMIAN KNOTWEED'

*Frangula alnus* GLOSSY BUCKTHORN

*Hedera helix* ENGLISH IVY

*Hemerocallis fulva* ORANGE DAYLILY

*Heracleum mantegazzianum* GIANT HOGWEED'

*Hesperis matronalis* DAMES ROCKET

*Humulus japonicus* JAPANESE HOPS

*Hydrilla verticillata* HYDRILLA

*Hydrocharis morsus-ranae* EUROPEAN FROGBIT

*Hypericum perforatum* COMMON ST. JOHN'S WORT

*Ipomoea purpurea* MORNING GLORY<sup>2</sup>

*Iris pseudacorus* YELLOW IRIS

*Lespedeza cuneata* SERICEA LESPEDEZA

*Ligustrum* spp. (non-native) PRIVET (non-native)

*Lolium multiflorum* ANNUAL RYE/ITALIAN RYEGRASS

*Lonicera* spp. HONEYSUCKLE (non-native)'

*Lotus corniculatus* BIRDS FOOT TREFOIL

*Lysimachia nummularia* MONEYWORT

*Lythrum salicaria* PURPLE LOOSESTRIFE

*Marsilea quadrifolia* EUROPEAN WATERCLOVER

*Medicago lupulina* BLACK MEDIC

*Medicago sativa* ALFALFA  
*Melilotus albus* WHITE SWEET CLOVER  
*Melilotus officinalis* YELLOW SWEET CLOVER  
*Microstegium vimineum* JAPANESE STILTGRASS  
*Morus alba* WHITE MULBERRY  
*Myosotis sylvatica* GARDEN FORGET-ME-NOT  
*Myriophyllum aquaticum* PARROT FEATHER  
*Myriophyllum spicatum* EURASIAN WATERMILFOIL  
*Myosotis scorpioides* WATER FORGET-ME-NOT  
*Najas minor* BRITTLE WATERNYMPH  
*Nepeta cataria* CATNIP  
*Nymphoides peltata* YELLOW FLOATING HEART  
*Oenothera biennis* EVENING PRIMROSE<sup>3</sup>  
*Onopordum acanthium* SCOTCH THISTLE  
*Pastinaca sativa* WILD PARSNIP  
*Phalaris arundinacea* REED CANARY GRASS  
*Phragmites australis* (non-native) COMMON REED (non-native)  
*Pistia stratiotes* WATER LETTUCE  
*Poa pratensis* KENTUCKY BLUEGRASS  
*Populus alba* WHITE POPLAR  
*Populus deltoides* COTTONWOOD<sup>3</sup>  
*Potamogeton crispus* CURLY-LEAF PONDWEED  
*Pueraria montana* var. *lobata* KUDZU'  
*Ranunculus ficaria* LESSER CELANDINE'

*Rhamnus cathartica* COMMON BUCKTHORN  
*Robinia pseudoacacia* BLACK LOCUST  
*Rorippa nasturtium* WATERCRESS  
*Rumex acetosella* SHEEP SORREL  
*Rumex crispus* CURLY DOCK  
*Rosa multiflora* MULTIFLORA ROSE  
*Rubus* spp. RASPBERRY/BLACKBERRY<sup>3</sup>  
*Salix interior* SANDBAR WILLOW<sup>3</sup>  
*Saponaria officinalis* BOUNCING BET  
*Schedonorus arundinaceus* TALL FESCUE  
*Securigaria varia* CROWN VETCH  
*Setaria* spp. FOXTAIL/MILLET<sup>2</sup>  
*Silene latifolia* var. *alba* BLADDER CAMPION  
*Solidago altissima* TALL GOLDENROD<sup>3</sup>  
*Solidago canadensis* CANADA GOLDENROD<sup>3</sup>  
*Solidago sempervirens* SEASIDE GOLDENROD  
*Sonchus arvensis* PERENNIAL SOWTHISTLE<sup>1</sup>  
*Sorghum alnum* COLUMBUS GRASS<sup>1</sup>  
*Sorghum halepense* JOHNSONGRASS<sup>1</sup>  
*Symphyotrichum lateriflorum* SIDE FLOWERING ASTER<sup>3</sup>  
*Symphyotrichum pilosum* HAIRY ASTER<sup>3</sup>  
*Tamarix* spp. SALT CEDAR<sup>1</sup>  
*Tanacetum vulgare* COMMON TANSY  
*Taraxacum officinalis* COMMON DANDELION<sup>2</sup>

*Thlaspi arvense* FIELD PENNYCRESS<sup>2</sup>  
*Torilis japonica* JAPANESE HEDGE PARSLEY  
*Toxicodendron radicans* POISON IVY<sup>3</sup>  
*Trifolium pratense* RED CLOVER<sup>2</sup>  
*Trifolium repens* WHITE CLOVER<sup>2</sup>  
*Typha angustifolia* NARROWLEAF CATTAIL<sup>3</sup>  
*Typha latifolia* COMMON CATTAIL<sup>3</sup>  
*Ulmus pumila* SIBERIAN ELM  
*Verbascum blattaria* MOTH MULLEIN<sup>2</sup>  
*Verbascum thapsus* COMMON MULLEIN<sup>2</sup>  
*Vinca minor* PERIWINKLE  
*Xanthium strumarium* ROUGH COCKLEBUR

<sup>1</sup>Species classified as a Noxious Weed in the State of Illinois as of the date of this document

<sup>2</sup>Species considered common weeds requiring control, not specifically considered invasive

<sup>3</sup>Species considered native (or questionably native) in the State of Illinois, but often has an aggressive growth behavior that may require control on a case-by-case basis